DOCUMENT RESUME

ED 182 819 EA 012 419

AUTHOR	Cates, Carolyn S., Ed.: Ward, Spencer, Ed.
TITLE	Dissemination and the Improvement of Practice: Cooperation and Support in the School Improvement Process.
INSTITUTION	Far West Lab. for Educational Research and Development, San Francisco, Calif.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	Nov 79
GRANT	OB-NIE-G-78-0203
NOTE	204p.; Some tables and figures may not reproduce clearly due tc small print
AVAILABLE FROM	Educational Dissemination Studies Program, Far West Laboratory for Educational Research and Development, 1855 Folsom Street, San Francisco, CA 94103 ($2.00)
EDRS PRICE	MF01/PC09 Plus Postage.
DESCRIPTORS	Administrator Role: *Change Agents: *Change Strategies: *Educational Change: *Educational Improvement: *Educational Programs: Elementary Secondary Education: Literature Reviews: Models: Program Development: *Program Evaluation: Speeches
IDENTIFIERS	*Linking Agents

ABSTRACT

The eight papers in this book summarize discussions and recommendations by participants in a 1977 conference that focused on three topics: definitions of linking functions and roles: coordination of dissemination and linking activities; and support needs of linking agents, including options for providing support. Each of the chapters provides information specific to school improvement efforts, such as the role of administrators in the change process, a framework for dissemination and linking services, training needed by linkers, and federal support. (Author/LD)

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Educational Dissemination Systems Support Program

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EA 012 419

DISSEMINATION AND THE IMPROVEMENT OF PRACTICE: COOPERATION AND SUPPORT IN THE SCHOOL IMPROVEMENT PROCESS

Contributors:

Adrianne Bank, George H. Grimes,
Ronald G. Havelock, Richard J. Lavin,
Olga A. Moir, Charles Mojkowski,
Donald R. Moore, William Paisley,
Marcella Pitts, Carol Reisinger,
Jean E. Sanders, Nancy C. Snidman
Spencer Ward

November 1979

Carolyn S. Cates
Spencer Ward

Editors

EDUCATIONAL DISSEMINATION SYSTEMS SUPPORT PROGRAM

FAR WEST LABORATORY FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

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Far West Laboratory for Educational Research
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1855 Folsom Street
San Francisco CA 94103

This project has been supported with federal funds from the National Institute of Education, Department of Health, Education, and Welfare, under Grant # OB-NIE-G-78-0203. The contents of this publication do not necessarily reflect the views or policies of the Department of Health, Education, and Welfare and the National Institute of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government of the Far West Laboratory.

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FEB 13 1980

ABSTRACT

The eight papers in this volume summarize and extend discussions and recommendations by participants in the 1977 Belmont Conference on Definitions of Linker Functions and Linker Support Needs which focused on three topics: definitions of linking functions and roles; coordination of dissemination and linking activities; and support needs of linking agents and options for providing support.

Spencer Ward (Chapter 1) provides an overview of the purpose, activities, and results of the conference and summarizes the content of each chapter. Ronald Havelock (Chapter 2) reviews the major points considered in conference discussions on linking functions: the broad definition of linkage adopted as the basis for discussion; a tentative master list of linkage functions; and a series of explanatory statements which suggest the flexibility or adaptability of a linking agent. Donald Moore (Chapter 3) presents the definition of "educational linking agent" developed in discussions of linker roles and an analysis of and rationale for the elements of the definition.

Richard Lavin and Jean Sanders (Chapter 4) describe the current context in which schools must operate, the roles of administrators and district resource persons in the change process, and implications of the context and internal roles for supporting and coordinating linking efforts. Charles Mojkowski (Chapter 5) continues the emphasis on coordination by identifying questions and issues which must be addressed in order to design and implement a framework for dissemination and linking services that is both comprehensive and integrated with activities of internal resource persons. Adrianne Bank, Nancy Snidman, and Marcella Pitts (Chapter 6) explore the interrelationships of the external linker with one of the district staff, the evaluator, who can play an important role in the needs assessment and program evaluation aspects of school improvement.

William Paisley, George Grimes, Carol Reisinger, and Olga Moir (Chapter 7) describe the variety of supports that linkers need--training, knowledge, organizational, and psychological--and suggest options for obtaining or providing these supports. Spencer Ward (Chapter 8) provides an epilogue which briefly traces the history of federally-supported efforts to address the issues considered in the preceding papers and attempts to respond to some of the concerns raised in the papers by suggesting a mirror-like perspective of the school improvement and linking/dissemination process.

FOREWORD

In the two years since the Belmont Conference, there have been significant shifts of emphasis in discussions of dissemination issues and activities. One shift has been the increased emphasis on coordination of dissemination efforts--the major focus of this collection of papers. The other shift, both reflected and clearly encouraged in these papers, has been the move from the language or terminology of dissemination per se to the language of school improvement..

At the Federal level, the shift can be found in NIE's renamed Dissemination and Improvement of Practice group (DIP), in USOE's newly created Bureau of School Improvement (BSI), and most importantly, in the new Department of Education's as yet unconceptualized Office of Educational Research and Improvement. Since shifts in our terminology over time parallel our attempts to more clearly define our ideas, to involve others in our work, and to show the interrelationships and dependencies between our work and theirs, this shift suggests the potential for significant changes in policy perspectives, structure, and implementation.

Although the act establishing the Department of Education refers to dissemination only once, the reference implies a direction for such changes.

> OFFICE OF EDUCATIONAL RESEARCH AND IMPROVEMENT
> SEC. 209. There shall be in the Department an Office of Educational Research and Improvement, to be administered by the Assistant Secretary for Educational Research and Improvement appointed under section 202(b). The Assistant Secretary shall administer such functions concerning research, development, demonstration, dissemination, evaluation, and assessment activities as the Secretary shall delegate. (emphasis added)

The placement of dissemination within the Office of Educational Research and Improvement acknowledges the need to administratively house together the members of the RDDDE continuum. In addition, it declares school improvement as the office's mission. These assumptions appear simplistic and obvious. Yet dissemination has always been a bureaucratic rather than a political initiative. Its definition, structure, implementation--its validity and worth--have never received priority from high administrative or political levels. Dissemination has no organized constituency and few if any political advocates. Over 200 pieces of legislation, encompassing every possible content area and agency, reference or require dissemination activities. Each has left responsibility for the definition and delivery of dissemination activities to the office administering the specific legislatively created program. This has resulted in fragmentation and a definition of dissemination activities so broad and all encompassing as to be virtually meaningless to many clients of its service. They know that they've been helped, but they don't know that what helped them was "Dissemination" or that it was delivered by a "Linker." In fact, a lot of the effective services were delivered by folk who didn't know that they were "Linkers." Yet, both clients and service providers agree that they are working for improvement.

The Federal role in educational research and improvement will be defined both by the specific programs brought under its banner and by the interaction between those programs. The new office has the potential to bring previously fragmented Federal resources into communication, if not coordination. It has the potential to provide access to a wide array of knowledges, processes, practices, products and people. And it has the potential to assist its clients in achieving the capacity to determine which of the multiple services may be most appropriate for the clients' specific needs. This end requires inter-program cooperation rather than competition.

These papers, part of an ongoing process begun long prior to the separate Department, chart a course of the communication to date. It is our hope that they will be of use in the coordination to come.

Andrew Lebby

Division of Educational Replication
United States Office of Education

Washington, D.C.
November, 1979

ACKNOWLEDGEMENTS

Of the many individuals who have participated in the preparation of these papers, special recognition is due the participants (listed in Appendix A) in the 1977 Belmont Conference on Definitions of Linker Functions and Linker Support Needs. It was from their emphasis on the need for coordination of dissemination functions that these papers have evolved. In addition, many of the conference participants have reviewed individual papers and provided helpful suggestions to individual writers. Their contributions have been much appreciated.

In addition to coauthoring Chapter 6, Adrianne Bank, of the Center for the Study of Evaluation, took responsibility for coordinating the preparation of the four papers commissioned by NIE following the conference. Similarly, William Paisley accepted responsibility for coordinating the preparation of Chapter 7 as well as coauthoring that chapter. Thus, the conference emphasis on coordination has served as an aid to the production of this volume as well as a substantive focus of individual papers.

Within the Educational Dissemination Systems Support Program, Paul Hood has provided, as always, expert guidance and support whenever it was needed. Mark Malkas and Brian Sulkis contributed critical editorial assistance. Ursula Hoffman, Alice Logan, and Marla Martin spent long, but cheerful, hours typing and proofreading manuscripts. The numerous contributions of all these individuals are gratefully acknowledged.

C. C.
S. W.

NOTES ON CONTRIBUTORS

ADRIANNE BANK (PhD, University of California at Los Angeles) is the Associate Director of the Center for the Study of Evaluation. She has taught at the graduate, adult education, and secondary school levels. Her previous experience includes work at the Southwest Regional Laboratory, developing instructional materials in reading and social studies, and at the Institute for the Development of Educational Activities (/I/D/E/A/), where she directed a training project for teachers in group problem-solving. In addition to administrative responsibilities at CSE, she has directed projects related to program planning, formative evaluation, evaluation of desegregation efforts, and lifelong learning. Currently, she is director of a project which is developing formative evaluation materials for the National Diffusion Network, and codirects a study of districts' testing/evaluation/instructional interactions.

GEORGE H. GRIMES (EdD, Wayne State University) is Director of the Professional Resource Center - Information Services, with the Wayne County (Michigan) Intermediate School District. Grimes has been a teacher and administrator in urban and suburban school systems, as well as serving as a public and community college librarian. He has also taught at the university level. Grimes' main areas of professional interest are the development of learning resources and education information systems; the dissemination and utilization of promising programs; the development, selection, and utilization of learning resources; and instructional development. He has published over thirty articles in professional journals and authored or coauthored six monographs and books.

RONALD G. HAVELOCK (PhD, Boston University) is presently Director of the Program for Knowledge Transfer and Professor of Information Study at the Center for Technology and Administration, The American University. Among his responsibilities are the organization and direction of a teaching and research program which focuses on knowledge transfer and includes sponsored research, graduate courses, internships, visiting scholarships, and a program of seminars for government officials. He has previously served as a Visiting Fellow with the National Institute of Education, and as Program Director and Research Scientist at the Center for Research on Utilization of Scientific Knowledge (CRUSK), at The University of Michigan. His extensive writings include Planning for Innovation (1969) and The Change Agent's Guide to Innovation (1973). Havelock's current research activities include management of two major subcontracts for the NETWORK: one is the linking agent component for the "Study of Dissemination Efforts Supporting School Improvement;" the other involves the development of a network design for actors in the vocational education domain as part of the "National Vocational Education Dissemination Study." In addition, he is the principal investigator of a study that examines the involvement of college of education in collaborative arrangements for school improvement.

RICHARD J. LAVIN (EdD, Boston University) is Executive Director and founder of the Merrimack Education Center, an educational service center in Massachusetts. He has served on the faculty of Boston College, Boston University, and in the financial management office of Harvard University. He consults with the Massachusetts State College system on organization and educational planning and has consulted with /I/D/E/A/-Kettering on educational management and leadership. Lavin has served on numerous state commissions on collaboration and organization and presently conducts planning studies of interagency delivery systems. He is a former superintendent of schools.

OLGA A. MOIR (MA, University of Michigan) is the Director of Project VALUE, a regional educational dissemination center at the Wayne County (Michigan) Intermediate School District dedicated to linking program resources to the educational needs of the third largest county in the nation. Her background includes teaching and administrative positions in several school districts and at a regional educational agency, in addition to teaching at the university level. Moir's major professional interest in effective internal and external linkage as it relates to systematic school improvement is reflected in Internal and External Linkers, A Case Study, a paper presented at the 1979 meeting of the American Educational Research Association. She also has been involved in extensive linker training and support activities. A recent example of her interest and experience in identifying local promising programs is presented in "Locally Identified Promising Programs: Quality Control Through Professional Judgment" which appeared in Education Leadership, October 1979.

CHARLES MOJKOWSKI (EdD, Boston University) is a self-employed private consultant (Educational Consulting Services, Cranston, Rhode Island) providing planning, management and evaluation services in education and other human service areas. Mojkowski has been a secondary school teacher, an elementary school administrator, and worked in the Rhode Island Department of Education in such areas as innovative programs, planning, and statewide and local assessment. He has provided technical assistance in dissemination to state department of education personnel participating in NIE's State Dissemination Grants Program. His primary professional interests are in conceptualizing and applying dissemination and change strategies to human services.

DONALD R. MOORE (EdD, Harvard University) is the Executive Director of Designs for Change, a not-for-profit research and technical assistance agency in Chicago, Illinois. Moore previously was Executive Associate with the Center for New Schools. He also has taught at the University of Illinois at Chicago and served as consultant to the Chicago Public Schools for the development of Metro High School, an experimental public school. In addition to the administrative and teaching responsibilities he has carried, Moore has served as principal investigator for research projects such as "A Study of SchoolRelated Advocacy Groups" and "Assistance Strategies of Six Groups that Facilitate Educational Change at the School/Community Level." In addition, he has directed a variety of technical assistance projects such as the development and coordination of materials and services for the Illinois Network for School Development and an experience-based strategy to improve urban public schools.

WILLIAM PAISLEY (PhD, Stanford University) is Associate Professor in the Institute for Communication Research at Stanford University. He has held faculty appointments at Syracuse University and the University of California at Berkeley, and has served as director for the ERIC Clearinghouse at Stanford University. Paisley serves as advisor and consultant to numerous projects concerned with educational dissemination and change. He has written extensively in the areas of information flow in society, human information processing, communication among scientists and professional, research utilization, and behavioral science methodology.

MARCELLA PITTS (PhD, University of California at Los Angeles) is a Senior Associate at the Council for Educational Development and Research (CEDaR), a national association of nonprofit educational research and development organizations. Prior to joining CEDaR, she worked as a Research Associate at the Center for the Study of Evaluation at UCLA.

CAROL REISINGER (ME, Shippensburg State College) is engaged in private educational consulting. Presently, she is with the Northeast Regional Education Planning Project which was funded to determine a need for the development of a regional exchange in the northeast area. Reisinger has been the coordinator of the Illinois Capacity Building Project and has served on dissemination advisory committees. She has published articles on dissemination and has presented papers at the National Dissemination Forum, the American Educational Research Association, and the Policy Options Symposium. Reisinger has worked as a project director in a New York BOCES and as a linking agent in Vermont.

JEAN E. SANDERS (EdD, Nova University) is Director of Research and Evaluation for the Merrimack Education Center. She has served as adjunct faculty for Boston University, University of Massachusetts at Lowell, and Fitchburg State College. Her recent publications include Selective Dissemination of Information for Educational Administrators and Evaluation of a State Practice File in Massachusetts.

NANCY C. SNIDMAN (MA, Fairleigh Dickinson University) is a Research Associate at the Center for the Study of Evaluation at UCLA. In this position she has been primarily involved with designing and writing evaluation materials to instruct educational practitioners in the use of evaluation procedures. She is also a doctoral student in Educational Psychology, specializing in Learning and Instruction. She has worked in educational product development at Southwest Regional Laboratory in California and has also served as a consultant for several program evaluation and dissemination projects.

SPENCER WARD (MD, University of Pennsylvania) has been a Senior Associate with the National Institute of Education since 1973. He is now responsible for studies of the knowledge synthesis process in the Research and Educational Practice unit in NIE's program on Dissemination and Improvement of Practice. His previous work at NIE involved synthesis efforts on definitions of linking and monitoring research on school organization and administration. In his earlier work with NIMH he studied family interaction and consulted with teachers and administrators on school management and management of individual students. As a psychiatrist and educator Ward's major interest is the impact of schools on the growth and development of students, teachers and administrators.

Chapter 1

INTRODUCTION*

Spencer Ward

The papers in this collection summarize and extend work begun at the November 1977 Belmont Conference on Definitions of Linker Functions and Linker Support Needs. That conference, sponsored jointly by USOE and NIE, brought together staff from state and local educational dissemination programs, from federal agencies engaged in educational dissemination support, and from organizations under contract with federal agencies to provide training and other forms of assistance to the educational dissemination programs. Also participating in the conference were persons who have been involved in studies of educational dissemination and school improvement. The conference participants and their affiliations are listed in Appendix A.

The purpose of the conference was to facilitate cooperation among several federally-funded linking and linking support services. As a foundation for such cooperation it seemed important that representatives of those programs have an opportunity both to discuss definitions of linker roles and functions and to explore means of cooperation.

The meeting was jointly planned by NIE and USOE dissemination staff in the context of three, then recent, events: 1) the acceptance by the 1977 Dissemination Forum of the four-level definition of dissemination; 2) the funding (by USOE) of the NDN Technical Assistance Brokerage (TAB) project; and, 3) the establishment of the R&D Exchange (RDx) in NIE-supported regional labs and R&D centers. The TAB project was then in the final phases of revising a framework for organizing the content of technical assistance to be provided.

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* The writer wishes to acknowledge contributions to the content of this chapter by William Paisley

Activities at the conference were well-summarized by the six major agenda items:

- Presentations by linking agents of their work with clients.
- Presentations by linking agents on the total role of the agent.
- Presentations by managers of linking programs.
- Presentations by linking support staff.
- Presentations on linking support projects above the program level.
- Work groups on the definition and synthesis of information on linking functions and support needs.

Perhaps the most exciting aspect of the meeting was the rich case presentations and the resulting discussions. These presentations were used to suggest and test definitions of linker functions and linker support roles. The actual agenda and membership of the subgroups, included in Appendix B, provides some feel for the content and process of the Belmont meeting.

Some participants had gone to the meeting with the hope of coming up with a fairly neat definition of linker functions. It was both exciting and frustrating to listen to linkers and managers of linking programs describing the wide variety of functions performed by different linkers in different settings. There seemed to be no consistent linker role. Indeed, a major point was that the role is dependent on the orientation of the linking agency, the capacities and inclinations of the linker, and the capacities and wishes of the client system. This point and other important themes of the conference are perhaps best summarized by excerpts from the presentations and discussions:

- Linkage is a process of connecting knowledge to people to help solve their problems and meet their needs.
- The core functions of a linker are locating, transforming, and delivering knowledge and related resources to practitioners.

- In a given situation, the linker role may need to expand toward building problem-solving capacity in the client system, or toward developing knowledge and other resources.

- Simply by helping client systems to define their needs and choose appropriate resources to meet them, linkers frequently increase the capacity of client systems to solve their own problems. In addition, linkers may sometimes need to engage in deliberate, direct efforts to build capacity.

- The degree to which performance of the linker's core role actually leads to school improvement depends on the presence of client problem-solving capacity on the one hand and of appropriate resources on the other.

- Linking agents are people who try to improve education by collaborating with client systems to develop and carry out mutual understandings for identifying, obtaining, transforming, and using resources helpful to the client system. Linkers are not neutral channels for conveying resources but inevitably draw on their individual and agency values and strategies.

- Observations of effective linkers in the field indicate that they don't act out a neutral role but rather that one of their most salient qualities is that they communicate forcefully a commitment to whatever it is that they are "selling," whether it be a process, a specific curricular innovation, a particular resource system, etc.

- The rational problem-solving model totally misses the critical aspect of linking that involves inspiring, motivating, and energizing people.

- Linkers carry with them a lot of "baggage" each time they face either a client system or a resource system. As individuals, they have values, energy, understandings, conceptual maps, capacities to nurture, a title and its associated status, power and influence, etc. As members/representatives of an agency, project, organization, association, network, profession, etc., they are associated with certain missions, structures, colleagues, functions, strategies, and ideologies.

- Conservation of the human resources that linkers represent is critical. Linkers are too often second-class citizens in their agencies, without friendly support, feedback, autonomy, and resources.

From this writer's perspective, the major ideas resulting from the meeting dealt with the need for support and support systems for linkers and the growing realization that the linker role and activities should be

defined by the interaction of linkers and the systems they are to serve. This latter idea was related to the concept of an internal linker which was referred to in a paper by Matilda Butler and William Paisley (1978) and was addressed in several presentations which further emphasized the role of the internal linker.

Although the concepts of the internal linker and their interaction with an external linker seemed to be important (the Paisley/Butler paper suggested the internal linker may eventually represent 90% of linkers), there was a general sense of being unable to understand and discuss clearly the role of internal linkers, or the relationship between internal and external linkers. One reason for commissioning the papers prepared since the conference was to provide an opportunity to expand upon some of these ideas.

The outcomes of the conference can be summarized as:

- Sharing of information among persons working with related programs with a resulting greater awareness for each individual of what else is being done in dissemination.
- Greater awareness of potential benefits of coordination/cooperation among dissemination activities.
- Review and response to the NDN TAR plan.
- Development of a list of linker functions and suggestions about how functions are combined in a specific linker role.
- Suggestions of types of supports needed and structures to plan for those supports.

At the end of the conference, participants recommended that steps be taken 1) to further explore coordination of dissemination functions and 2) to review and revise the subgroup reports to provide a stimulus for such coordination. The further exploration of coordination has been pursued both by conference participants and by others in planning and carrying out 1978 and 1979 dissemination forum activities. This set of papers is the result of the second step.

Immediately following the conference, a set of reports was prepared which summarized discussions in four conference working groups:

- Linkage Definitions and Functions
  (Ronald Havelock and Spencer Ward)
- Roles of Linking Agents
  (Donald Moore)
- Coordination of Dissemination and Linker Training and Support Activities
  (William Paisley and Paul Hood)
- Linker Support Needs and Support Systems
  (Virginia Thompson)

The first two reports are included here, with some revisions, as Chapters 2 (Havelock) and 3 (Moore). The reports by Thompson and by Paisley and Hood served as the starting point for the additional papers in this collection. As with the conference discussions and reports, the succeeding chapters are organized around three foci: definitions of linking functions and roles; coordination of dissemination and linking activities; and support needs of linking agents and options for providing support.*

Definitions. In Chapter 2, Ronald Havelock reviews the major points considered by the Task Force on Linking Functions. Included are the broad definition of linkage adopted as the basis for discussion, a tentative master list of linkage functions, and a series of explanatory statements which suggest the flexibility or adaptability required by a linking agent who carries out any or all of the functions identified. In Chapter 3, Donald Moore presents the definition of "educational linking agent" developed by the Task Force on Linker Roles and the group's analysis of and rationale for the elements of the definition. Although both these chapters are fragmentary in the sense that they do not include all aspects of discussion

* Several of the papers refer to a nationwide dissemination system. The references are related to recommendations from the 1977 Dissemination Forum which suggested the need for such a system or configuration. Such a configuration was not, however, a major topic at the Belmont Conference.

in the two groups, they reflect an essential feature of both the Belmont Conference and the chapters which follow: namely, the attention given to experience of practicing linking agents for developing definitions and for identifying and addressing issues of coordination and support.

Coordination. Richard Lavin and Jean Sanders (Chapter 4) lay the foundation for considering coordination of linking activities by describing the current context in which schools must operate and the roles of administrators and district resource staff in the change process. In suggesting implications of the context and internal roles, they particularly emphasize the need for the linking agent to provide support to and coordinate linking efforts with such internal resource persons. In Chapter 5, Charles Mojkowski continues this emphasis on external-internal coordination as he identifies questions and issues which must be addressed in order to design and implement a framework for dissemination and linking services that is both comprehensive and integrated with activities of internal resource persons.

Although it may be confusing to refer to these internal persons as linkers, these two chapters make a convincing case for the need for external linkers to support rather than compete with school and school district resource staff. They emphasize the need to involve school staff in planning (and perhaps governing) of any linking operation, and the need for linkers to focus on helping the schools with their internally defined improvement efforts rather than to produce some externally defined change. These chapters describe the pressure under which schools operate--particularly with state accountability and improvement mandates. They also suggest that unless linking agents can be seen as colleagues and supports, they will be seen as one more source of pressure and ignored whenever possible.

Lest these chapters leave you with the impressions that there is only conflict and lack of coordination between disseminators and school staff, it is worth noting that it was just such a coordination and service orientation that characterized all of the case presentations at the Belmont meeting. Two of those presentations, particularly, described organizational arrangements which seemed to facilitate collaboration between schools and external linkers. The Merrimack Education Center, which Richard Lavin directs, is governed by a board made up of superintendents of the client school districts. Lavin's role in that board is a good example of Likert's (1961) linking pin model to which Lavin refers. He provides a two-way flow of information--from the superintendents to Center staff and from Center staff to the superintendents. This governance structure, plus the fact that major funding support for the Center comes from the client school systems, assures accountability to the client schools and assures that the superintendents will listen to the data from linkers to be sure that they get their money's worth from the services they plan.

Another example of coordination of internal staff and external linking agents is seen in the Wayne County Intermediate School District's Project VALUE for which George Grimes and Olga Moir share responsibility and leadership. In that program the superintendents of the school districts served by the intermediate district appoint a senior staff member (often the assistant superintendent for instruction) to serve as an "internal linker." Those internal linkers constitute a governance unit for Project VALUE, much as the superintendents in Lavin's program. The staff of Project VALUE provide knowledge, training, technical assistance, and process help first to the internal linker, and through the internal linker to principals and other staff in the district. Many of the services provided have been in response

to requests from the district and school level administators to help them improve their functioning in the planning and coordination of school improvement and in other administrative responsibilities.

In Chapter 6, Bank, Snidman, and Pitts carry on the theme of external-internal coordination as they explore the interrelationships of the external linker with one of the district staff, the evaluator. A similar paper might have been prepared from the perspective of the curriculum specialist, the staff development specialist, and the school administrator. However, evaluators provide a particularly good example because they are so often ignored by linkers and yet should play an important role in needs assessment and program evaluation, which are crucial parts of school improvement efforts. As would be true with any other example, the relationship of linker and evaluator would depend on the district's capacity for assessment and evaluation. It is probably not a matter of who should do what, but of some clearly formulated collaboration where the linker and evaluator each do what they can do best at the moment. It appears to this writer that if the evaluator, or another school staff person with clear responsibility in the system for a given task, does not have the necessary skills, and knowledge, the linker might best begin to explore ways to help that person get the training and support they need to perform the task.

Support Needs and Options. Chapter 7, by Paisley, Grimes, Reisinger, and Moir, describes the variety of supports that linkers need--training, knowledge, organizational, and psychological--and suggests options for providing or obtaining these supports. Although at Belmont and in the preparation of these papers, we have thought of this chapter in terms of support for external linking agents, it might be seen as suggesting solutions to some of the issues raised by Lavin and Sanders and by Mojkowski. Their concerns about the linker's lack of responsiveness to or conflict of interest with

school district staff might be restated as questions about how the external linker might support or collaborate with the district staff.

It appears to this writer that the supports laid out in Chapter 7 might provide a first cut at a definition of the kinds of supports that school district staff need in order to perform their jobs--certainly to perform the linking agent-like aspects of their jobs. Too often school district staff, both administrators and resource staff, do not have the supports they need. It is little wonder in such a situation that those internal staff persons might feel unreceptive to an outside linker who has those supports and does not have the same level of pressure and accountability. In small school districts where internal resource staff are not available, there is probably the need for an external linker to provide direct help. In many larger districts the external linkers might better use some of their time and funds in helping train and support district staff.

In the Epilogue (Chapter 8), Ward briefly traces the history of federally-supported efforts to address the issues considered in these papers and draws together the major themes presented here. He also attempts to respond to some of the concerns raised in the preceding chapters by suggesting a mirror-like perspective of the school improvement and linking/ dissemination processes.

It is important to emphasize here that the authors of these papers have attempted to grapple with some difficult and often fuzzy issues. We have undertaken this, not because we feel we have all the answers, but because these seem to be crucial and continuing issues, and we have felt an obligation to raise useful questions and suggest directions for finding answers. We hope that readers will approach the papers as fellow explorers and that some will be able to define the issues and potential directions more clearly.

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CHAPTER 2

REPORT FROM THE BELMONT TASK FORCE ON LINKING FUNCTIONS

Ronald G. Havelock

The work of the Task Force was concentrated on three topics: development of a definition of "linkage;" identification of a tentative master list of linking functions; and preparation of a series of statements intended to suggest the role flexibility required to carry out the linking functions. The Task Force began its work by composing this broad definition of linkage:

> LINKAGE is a process of connecting knowledge to people to help solve their problems and meet their needs.

Using this definitional guide, the group reviewed alternative conceptualizations of linkage functions provided by Capla Associates (1977), Crandall (1977), Butler and Paisley (1978), Northwest Regional Educational Laboratory (1976), and Pascarelli (1978) as a starting point for identifying both the major categories of functions and the variety of activities within each category. Although initial attention was directed particularly to graphic models, geometric depictions were eventually considered too restrictive as vehicles for illustrating the full range of linkage functions. In place of visual modeling of functions, the Task Force agreed upon four major categories of functions which reasonably reflect the categories included in the several conceptualizations considered:

A. Problem-solving, process helping, and services relevant to general organizational capacity building.

B. Resource finding services, including providing information and locating and delivering resources of all kinds.

C. Developing and transforming knowledge and other resources.

D. Support for the implementation of new practices derived from or related to R&D knowledge resources.

Under each heading the Task Force generated a number of specific functions at roughly the same level of detail. These were drawn from the previous conceptualizations, examples of linker activities provided earlier in the conference, and from the experience of Task Force participants. Although this task was only begun during the conference, the direction in which the group was headed was sufficiently clear to allow the subsequent elaboration offered below as a tentative master list of functions:

A. Problem-Solving/Process Helping/Organizational Capacity Building Services

1. Evaluate program and other knowledge resources
2. Revise and adapt program and other knowledge resources
3. Assess needs
4. Define problems
5. Set goals
6. Manage conflict (resolve, turn to good use)
7. Improve, facilitate communication within the system
8. Increase participation in decision-making
   a) within the school
   b) between school and community
9. Improve procedures for solving problems
10. Improve procedures for planning
11. Improve procedures for evaluating present system performance
12. Establish internal mechanisms for acquiring resources
13. Building an awareness of the need for continuous planned change effort
14. Establish decision-making teams for innovation which are internal to the client system and ongoing

B. Resource Finding Knowledge Services/Information Providing/Locating-Delivering

1. Provide general information on resources
2. Provide information on one specific product
3. Provide comparative information on sets of products
4. Negotiate information requests
5. Information searching
6. Demonstrate products or practices: display, model
7. Interpret or derive implications from information or resources for specific clients
8. Connect people and organizations to knowledge sources or access points
9. Connect people to resources internal to their organization or community (this may also belong under set "A" above)
10. Client finding (to match with a given resource or array of resources)
11. Promotion/advertising of products, services, and practices
12. Marketing of products, services, and practices

C. Developing and Transforming Knowledge and Other Resources

1. Evaluate and screen knowledge products according to various criteria, e.g. reliability, validity, scientific basis, practical relevance, importance, replicability, acceptability, etc.
2. Summarize knowledge products
3. Synthesize and generate knowledge products from multiple diverse knowledge sources
4. Generate files of resources of various types (print, person, organization, products, services, programs)
5. Tailor resources for classes of user and user situations-settings
6. Tailor and adapt resources for specific users
7. Assemble, unitize, package, repackage knowledge and resources elements to improve effectiveness, impact, perceived relevance, marketability, utility, etc.

D. Implementation Support

1. Assist user in finding long-term financial support for an adopted practice or program
2. Assist user in maintaining the quality of the innovation
3. Assist user in evaluating the multiple consequences of the innovation
4. Assist user in building procedures and muchanisms for continuous reevaluation of the innovation and its impacts-effects
5. Assist user in establishing viable institutions (sub-organizational units and roles) to insure the survival of the change
6. Assist user in developing regulations, rules, and procedures which foster the continuance of the innovation (including budgeting and accounting)
7. Assist user in training, socializing, and selecting staff to carry out change program over time
8. Assist user in gaining the types of support from organizational leagership and community necessary to continue the innovation (e.g. sanctions, approval, endorsement, viable participation)

The Task Force concluded its work by endorsing a series of explanatory statements regarding linkage and the linker role which had been prepared for the group by Charles Thompson. These statements were widely applauded and, in effect, endorsed by the plenary session at its final meeting. They read as follows:

- The core functions of a linker are locating, transforming, and delivering knowledge and related resources to practitioners.
- In a given situation, the linker role may need to expand toward building problem-solving capacity in the client system or toward developing knowledge and other resources.

- Simply by helping client systems to define their needs and choose appropriate resources to meet them, linkers frequently increase the capacity of client systems to solve their own problems. In addition to increasing capacity as a by-product of performing the core role, linkers may sometimes need to engage in deliberate, direct efforts to build capacity.

- The degree to which performance of the linker's core role actually leads to school improvement depends on the presence of client problem-solving capacity on the one hand and of appropriate resources on the other.

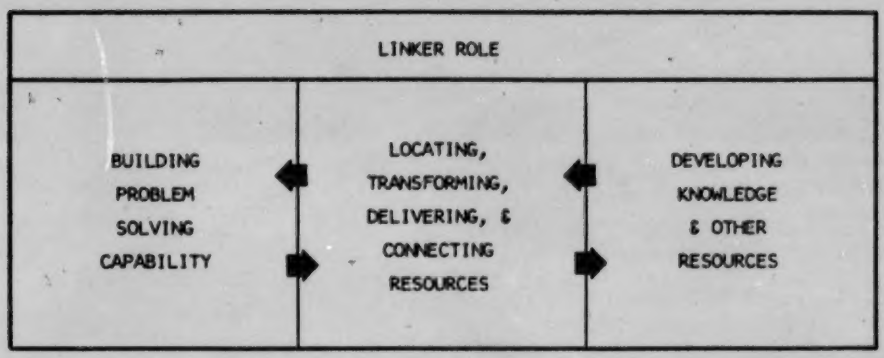
- In the past, various schools of thought have emphasized one or another part of the knowledge development and utilization system. It is becoming increasingly apparent that building problem-solving capacity, developing knowledge and other resources, and "connecting knowledge to people" are mutually necessary parts of a system.

- The knowledge and other resources which linkers "deliver" may take the form of: 1) codified, scientific knowledge; 2) technologies such as curricula, comprehensive programs, etc.; and, 3) "craft" or informal knowledge about practice.

- In analyzing a client system, linkers may need to focus on features such as power, the presence or absence of structures that bring appropriate people together, the level of communication and problem-solving skills people already possess, the degree to which the climate or norms support problem-solving, the nature and intensity of incentives for improvement, and the like.

- In the various diagrammatic representations of the ideas discussed here, different terms have been used to refer to parts of the knowledge development and utilization system, and to refer to the linker's activity with respect to these parts. Beneath these terminological differences, however, there appears to be a core of common understandings. Elsewhere in our report, we indicate the correspondences among these terms. While the "fit" among sets of terms is not perfect, it is surprisingly good. We find this reassuring and encouraging.

Some of the role flexibility or adaptability suggested in the above statements is represented in the following model from the group's final deliberations:


LINKER ROLE
BUILDING PROBLEM SOLVING CAPABILITY
LOCATING, TRANSFORMING, DELIVERING, & CONNECTING RESOURCES
DEVELOPING KNOWLEDGE & OTHER RESOURCES

The arrows suggest that the major emphasis of the linker's work might expand or contract depending upon the capacities of the external environments. Thus, if the school system did not have sufficent problem-solving capacity, the linker role may need to expand so as to help carry out that function. Similarly, if the R&D community lacked capacity, the linker may need to take on some R&D functions.

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Chapter 3

REPORT FROM THE BELMONT TASK FORCE ON LINKER ROLES

Donald R. Moore

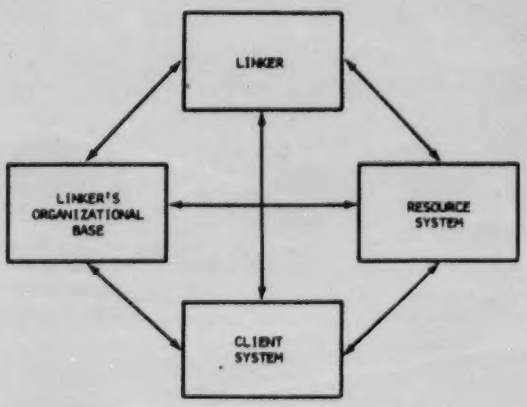
A TENTATIVE DEFINITION

The basic task that this group set for itself was to develop and to analyze a definition of the "educational linking agent." The resulting definition is as follows:

> Linking agents are people who try to improve education by collaborating with client systems to develop and carry out mutual understandings for identifying, obtaining, transforming, and using resources helpful to the client system. Linkers are not neutral channels for conveying resources, but inevitably draw on their individual and agency values and strategies.

This definition implies a model of the linker's world (below) in which he/she "faces" three external entities--the client system, the resource system, and the linker's organizational base.

A MODEL OF THE LINKER'S WORLD



The work group used the definition and this model to clarify a number of points about the linker with which they found themselves in agreement. These are presented as "general comments on the definition." Included in the comments are 1) discussion of developing an experience based definition of the linking agent and 2) our rationale for some specific elements of the definition. A brief summary emphasizes the direction of our work and our main recommendation for future efforts.

GENERAL COMMENTS ON THE DEFINITION

Developing an Experience-Based Definition

A useful definition of the linking agent should take into account a broad trend in efforts to improve schools in the past 15 years. Groups operating within a variety of change traditions have developed change strategies that feature a person or team working directly with local client systems (individual teachers, schools, school communities, etc.) to facilitate the changes envisioned as desirable by that particular change tradition. This person or team links client systems with resources not previously available to them. In different change traditions, these linking agents have been called facilitators, staff development specialists, organization development specialists, change agents, teacher advisors, parent advisors, etc. Although various change traditions began with quite distinct views about how such linking agents should behave, and how the client systems should be linked with various resource systems, the experience of linking agents in the field has caused a convergence in their approaches. For example, organization development specialists seem generally to have found that process skills are adopted most frequently when they are taught in the

context of an attempt to solve a pressing problem and tend to be ignored when they are taught in isolation. Facilitators for Individually Guided Education have developed a sophisticated process for helping school staffs decide whether or not they want to adopt IGE. Staff development specialists who initially spent much of their time setting up courses have begun to place more emphasis on working with intact school staffs and sometimes with parents to solve local school problems.

And the notion that an educational counterpart of the agricultural extension agent could dispense the educator's answer to hybrid seed corn has also evolved in response to particular realities of educational settings. Students of the educational change process have pointed out that the scientific knowledge base for prescribing scientifically-validated solutions to educational problems is very meager and is not likely to radically expand in the foreseeable future; that the range of value orientations about what constitutes good education is far more variable than is the case in a field like agriculture or medicine; that innovations in education entail complex changes in organizational functioning rather than the "installation" of new products, etc. Such realities of schools as social settings have forced the field agent concept and other change traditions to converge in practice, so that the behavior of linking agents regarded as effective in different change traditions is often surprisingly similar. Of course, many distinctions between change traditions and strategies persist, and this diversity should be carefully analyzed and not disregarded. However, it seems to us that there are a great number of people operating in different change traditions who are doing the same kinds of things that effective linking agents are doing within the National Diffusion Network and other programs that emphasize the term "linking agent." Thus, a great opportunity would be lost if the term

"linking agent" became synonomous only with a few specific federally-funded programs.

Rather, it seems much more in the interest of educational improvement to expand the approach around which this conference was designed and to develop a definition of the linking agent by examining specific examples of effective linking agent activity in the field, including the work of people who are motivated by a variety of change traditions.

Therefore, we have tried to develop a definition of the linking agent that is specific enough to accurately characterize a distinctive role and its critical elements, but broad enough to include a variety of different people who in practice are carrying out similar activities to improve schools. Further, we tried to frame the definition so as to highlight the key dimensions on which linking agents differ. It seems to use much more profitable to characterize different types of linking agents and to formulate hypotheses about which type of linking agent is more effective in a given context than to argue about whether someone is or is not a linking agent. For example, it seems unproductive to try to restrict the definition of linking agent to someone who is not employed by a client school district. It is much more profitable to distinguish linking agents on a number of dimensions, including the dimension of internality to the client system. Thinking about this internal-external dimension then raises some useful questions. Who do clients actually perceive as outsiders and what criteria do they use? In what respects are central office staff of a large school district perceived as insiders or outsiders by local school staff? What are the relative advantages and disadvantages of a person who is part of a local school staff (e.g., a counselor or assistant principal) acting as a linking agent?

Some Specific Elements of the Definition

Below, we discuss in turn various phrases in a definition, and our rationale for including them.

"Linkers are people..." Non-human systems or technologies may support linking agents, but linkers themselves are people, either working as individuals or as a team; this reflects the research evidence and practical experience indicating the crucial importance of interpersonal contact in the change process.

"...who try to improve education..." Linking agents should have formulated and be acting on some conscious plan through which they intend to improve education.

"...by collaborating with client systems to develop and carry out mutual understandings..." Different change strategies may specify different client systems for the linker to work with (e.g., individual teachers, the staffs of particular schools, the staffs and parents of particular schools, central office staff of a school district). Differing local conditions may also affect the nature of the client system. Further, different change strategies offer varying advice about which persons within the client system are most critical to the change process (e.g., central office staff, building principals, teacher and/or parent opinion leaders). Varying conceptions of who one's clients are constitute an important dimension on which which linkers differ.

Whatever client system is chosen, we believe that the notions of "collaboration" and "mutual understandings" are critical in defining the linker. Linkers do not merely "dump" resources on clients or coerce clients into using them. However, the nature of this collaboration and mutual understandings may vary widely. The linking agent, for example, may accept any

request for information as valid (e.g., "What do you have on teaching fractions?" "Here are some good ideas."). Or the linking agent may require the client to go through a needs assessment process. Or the linking agent may attempt to dig beneath the problem presented and diagnose for the client what the linking agent sees as the underlying problem. Or the linking agent may seek to demonstrate the advantages of a particiular educational program in which the client has expressed some interest. All of these strategies were recounted by various linking agents present at the conference. The common element in all of these approaches is some form of collaboration that leads to mutual understanding between client and linker. The nature of these agreements between clients and linkers varies greatly. Verbal promises, memoranda of understanding, legal documents, and handshakes are all methods used to seal bargains to collaborate. One key area for further thought and research is the effect of various kinds of processes for attempting to reach mutual understanding.

"...for identifying, obtaining, transforming, and using resources helpful to the client system." This phrase indicates the activities of the linking agent that grow out of the mutual understandings developed with clients. The linking agent undertakes various activities to put clients in touch with resources that weren't formally available to them. Based on the accounts given by linking agents, such resources can include JDRP-approved programs, research findings, experts in particular curriculum areas, a teacher in a neighboring school who has solved a particular problem, the initiators of a successful environmental program, etc. Linkers may also make resources available that were right at the client's fingertips, but which they didn't recognize as resources (e.g., by helping the school develop a program to identify parents who will allow students to do a "shadow study" of their occupation).

Differing conceptions of which types of resource are most critical in improving schools divide various schools of educational change. One school of thought emphasizes the importance of helping clients identify and learn to use materials and programs that have been carefully developed and tested elsewhere, while another school of thought emphasizes the importance of developing one's own materials and identifying unused local resources. Once again, we would argue that effective linking agents in the field tend to merge these two approaches. To us, the challenge appears to be to determine the optimal relationship between 1) the wide dissemination of exemplary materials and programs, and 2) local adaptation and independent developmental work.

"Linkers are not neutral channels for conveying resources, but inevitably draw on their individual and agency values and strategies." It is attractive for a variety of reasons for the proponents of a particular linking agent strategy to present it as scientifically validated and value-neutral. The agricultural extension agent dispensing samples of hybrid corn is an enticing model for the educational linking agent. Claiming a scientific basis for one's product in a scientific age is often a helpful stimulus for people to change. And presenting oneself as offering a "value-neutral" process for educational improvement is an attractive stance for a state agency, federal agency, or independent organization in a country that values local control. We included a statement that undercuts this stance in our definition of the linking agent because we regard this stance as a major impediment to productive thought about linking in education. The image of the linking agent as a neutral agent dispensing scientifically-validated programs conflicts with a number of assertions that we believe we can fully defend. We discuss them briefly to keep this report to a managable size.

First, the view that research and evaluation could quickly lay a scientific basis for educational practice has not panned out. Few claims that a program transferred from one educational setting to another has been able to produce impressive and reliable gains in student outcomes have held up under close scrutiny. Many lines of research, such as teacher effectiveness and the comparison of various teaching methods, have failed to yield clear generalizations that can be translated into educational practice. And no problem-solving process or other change strategy has been proved through research and evaluation to lead to consistent measurable benefits for those who undertake it.

Second, all linkers are selling or advocating some type of change, whether it be a problem-solving process, a new reading program, a way to obtain information about programs judged in some way to be exemplary, or whatever. And all linkers are making choices about who their clients are, about who defines what local schools and children need, that can scarcely be judged neutral. Suppose, for example, the linker is working in a local school where he/she observes numerous instances of racist behavior on the part of teachers and finds that almost all poor children are dropping out of school. Suppose further the linker conducts a staff needs assessment and determines that the teachers' stated priority need is "to teach our children to live in a metric world" and that staff requests that the linker provide them with methods for incorporating the metric system into their curriculum. Such an example highlights value and strategy questions that linkers confront in less extreme forms all the time:

- Who are my clients?
- Who defines a need? By what process? Need definition is a political process.
- How do I respond to initial statements of need? By meeting them, to build credibility? By redefining them? Or what?

Similarly, "rational" designs for problem-solving cannot be considered value-neutral. Those advocating that local schools or school districts undertake rational problem-solving processes are advocating a specific change in the way a school, school community, or school district makes decisions, that may or may not have beneficial effects for these client systems. For example, case studies of rational problem-solving programs, in addition to identifying some of their positive features, indicate that they require great amounts of the scarce slack resources of the school, may enable people to avoid dealing with pressing problems, sometimes cull out all but the most committed participants, can lead to compromise solutions to problems that please no one, and can ultimately result in little change.

Phrases like "process-oriented rather than content-oriented" may be politically effective rhetoric, but they are highly detrimental to a clear analysis of various change strategies. It seems to us preferable to specify that particular aspect of the functioning of the client system as a social system the linking agent feels should be changed (whether it be certain decision-making processes, roles of certain people, access of clients to a particular resource system, or whatever).

Third, observations of effective linkers in the field indicate that they don't act out a neutral role, but that rather one of their most salient qualities is that they communicate forcefully a commitment to whatever it is that they are "selling," whether it is a process, a specific curricular innovation, a particular resource system, etc. The importance of this quality of commitment and enthusiasm is emphasized in Emrick's evaluation of NDN (1977) and in other research studies that have looked closely at what linkers actually do. This emphasis was underscored in our own group discussions by one NDN developer demonstrator who said that she felt the rational problem-solving

model totally missed that critical aspect of linking that involved inspiring, motivating, and energizing people.

Fourth, both studies of linking agents and the accounts given by linking agents at the conference emphasized the fact that linking is immersed in a political context in which linkers and the agencies they work for inevitably have agendas, survival needs, etc. that become salient in the linking process. Jane Arends expressed our views forcefully when she wrote:

> Linkers carry with them a lot of "baggage" each time they face either a client system or a resource system. As individuals, they have values, energy, understandings, conceptual maps, capacities to grow, capacities to nurture, a title and its associated status, power and influence, etc. As members/representatives of an agency, project, organization, association, network, profession, etc., they are associated with certain missions, structures, colleagues, functions (e.g. the SEA regulatory functions), strategies, and ideologies. No person can be neutral in interactions with other persons at a particular moment, be they clients or resources.

In general, it seemed to us that the political aspects of linking are underplayed in most analytical discussions.

For the four reasons cited above, then, we felt that the definition of linkage should emphasize that linkers "inevitably draw on their individual and agency values and strategies."

SOME SUMMARY COMMENTS

As the preceding sections show most clearly, our thinking is preliminary and fragmentary. The main value of our work was to define what we see as a profitable line of activity that can help refine thinking about the educational linking agent. Our main recommendation is to continually consult effective practice in the field as a means for enriching knowledge about linking and practical strategies for making it work. Working in this direction, we sought to:

1. Arrive at some tentative definitions of linking that are based on practice.

2. Include in those definitions key terms that both define the linker and indicate the key dimensions on which the practice of linkers varies.

3. Use these definitions to map four elements of the linker's world: self, organizational base, client system, and resource system.

4. Develop some fragmentary illustrations of the types of ideas and propositions that might serve to stimulate further thinking and research about the linker's relationship to these four domains.

Many of the specifics of what we did in a short time need to be refined or discarded, but we feel especially that the direction we pursued and the first attempt at a definition we arrived at should be useful to others.

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Chapter 4

EDUCATIONAL IMPROVEMENT AND THE FUNCTIONS OF SCHOOLS: SOME IMPLICATIONS FOR LINKAGE SUPPORT SYSTEMS*

Richard J. Lavin

Jean E. Sanders

> Schools are essentially living systems...in a constant process of interaction with their communities and with labor unions, universities, churches, and many other institutions. Indeed, at first glance, a large school district may seem a system of forbidding complexity (Schmuck and Runkel, 1973, p. 436).

THE CONTEXT--LOOKING AT SCHOOLS TODAY

Probably no social agency has received more attention, financing, impact from legislation, or ongoing criticism than the American public schools. School makes up one third of the classic sociological institutional triad along with family and church. But as the other two institutions in that model change structurally and lose the force they once possessed, society turns its expectations toward the schools. Simultaneously, the school organization is subject to a wide variety of pressures from coalitions of interest groups with differing goals.

That schools are pressured to change is evidenced by myriad social, economic, and political movements, court decisions, and legislation. The newsletter from the American Association of School Administrators indicates

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* The authors were assisted in the draft stages of this paper by the following readers: Jack Childress, Educational Testing Service; Sondra Cooney, Rhode Island Department of Education; Mario Fantini, University of Massachusetts; Gene Hall, University of Texas; James Hammond, Massachusetts Board of State Colleges; Jan Jacobs, Redford, Michigan; Lou Rubin, University of Illinois; Walt Turner, American Association of School Administrators; Spencer Ward, National Institute of Education.

that public education is now experiencing some of its most severe crises, and that these will result in further mandates for change in the school system. Four major crises are identified (AASA/NOCIESA, 1978):

- Problems that other societal institutions cannot solve.
- Cataclysmic changes in American family structure.
- Expectations and methodologies for fulfilling needs of employees who are coalescing to maneuver the public school system.
- Taxpayer revolts.

In a word, schools are beginning to lose control over the resources that would enable them to change, at the same time that they are coming under more and more pressure to change.

Although a huge, nationally-oriented federal agency exists for the purpose of addressing a broad range of problems in education, e.g., academic skills, special educational needs, racial segregation, financing, transportation; it is to the smaller unit--the local school district--that the citizen turns for resolution of these problems. Furthermore, failure to find an equitable and acceptable resolution at the local level is far more aggravating to the citizen than it would be at a higher level, since many citizens have come to expect less response from the larger and more distant federal agencies.

Given the assumption that local schools have fewer resources than the larger governmental units, and given also the local citizenry's expectations of the local schools, one might conclude that the role of the school administrator has become so demanding that it requires extensive external support. But the limited availability of resources may preclude the possibility of hiring more staff or even of procuring adequate training for existing administrators.

As a prime concern inherent in their roles, superintendents, principals curriculum supervisors, and other school administrators constantly must make decisions regarding the improvement of the educational process in their communities. Administrators often find themselves in unstructured situations for which no established decision-making procedures exist--complex, unprogrammed situations that the manager must confront. Hence, the administrator, often must resort to "muddling through" and "seat of the pants" decision-making when confronting such problems. All he or she hopes for is to avoid or to resolve conflict, which he or she does by giving sequential attention to different and often contradictory goals. The administrator is confronted with decisions that must be made within relatively short time frames, that cannot wait for long-term skill development or careful application of the problem-solving models proposed by a "rational" model or theory. It is not surprising that school administrators are problem-oriented. They have to respond to what is "giving them heat today." This tendency to respond in a reactive fashion has been described by Mintzberg (1973, p. 14).

> Managers act in a remedial fashion, moving away from ills rather than towards goals. Only marginal alternatives--those that will not result in unanticipated change are considered, and few consequences are investigated. Most significantly, the manager acts in serial, or step-wise fashion, making another change, and so on. Alternative choices do not exist per se; they often become apparent only in specific situations and are conditional upon others' choices.

The administrator must be better prepared to deal with unprogrammed decisions where there is unreliable data and great uncertainty. The purpose of this paper is to examine certain resource systems that can be linked efficiently and effectively to the educator's need for increased problem-solving resources.

THE MANAGEMENT/LEADERSHIP DOMAIN

Decision-Making Situations

The training of educational administrators should include two kinds of decision-making situations: rational decision-making and political decision-making. Banfield (1962, p. 326) discusses these two types of decision-making situations, calling them central choice and social choice.

> A central decision is in some sense purposeful and deliberate; it is made by someone... A social choice [on the other hand] is the accidental by-product of the actions of two or more actors... The aggregate of all actions... constitutes an outcome for the group--an outcome which no one has planned as a 'solution' to a 'problem.' It is a resultant rather than a 'solution'....

Banfield's discussion appears to place the two types of decision situations in an either-or relationship similar to the relationship suggested in discussions of comprehensive versus incremental approaches to change or discussions of convergent versus divergent problems (Schumacher, 1973). The fact is that these are not mutually exclusive types of situations. They coexist in the school environment, and the manager must be able to confront both types.

Another major environmental factor that should be considered when attempting to initiate planned change is the fact of the multiple functions of school systems. Work at the Merrimack Education Center, performed in conjunction with the Massachusetts Needs Assessment and Planning Project, has resulted in a model of school system functions with four dimensions or subsystems: the organizational context within which the system exists; the processes of management and decision-making; the human resources for teaching; and the operational environment for learning (see Figure 1).

FIGURE 1

A MODEL OF THE MULTIPLE FUNCTIONS OF SCHOOL SYSTEMS

SYSTEM DIMENSION	LEVEL OF COMPLEXITY	CHARACTERISTICS
Organizational Context	D	Organizational Development Reorganization Organizational Interface Inter-Governmental (state, federal, local) Legislative Policy - Goals College/Community Human Services Corporations/Private/Public Home-School
Management Decision-Making Processes	C	Assessment and Evaluation Management Development Programs (PPBS, MBO) Research Methodology Personnel Motivating Problem Analysis Information
Human Resources	B	Teacher Charactieristics and Competencies (cognitive; affective) Teacher Education (preservice; inservice) Paraprofessionals and Differentiated Staffing (volunteers; paid aides) Parent Training Systems CETA
Learning Environment	A	Equipment and Materials Curriculum Learning and Teaching Styles Facilities Teacher Resource Materials Educational Objectives and Outcomes Instructional Procedures Learning Programs (including diagnosis and assessment) Facilitating Climate Business Practices

Subsystem functions related to educational improvement have also been identified by Culbertson (1977b): policymaking, management/leadership, and teaching/learning (Figure 2). In both frameworks, educational dimensions or functions are identified at various levels of complexity, with each level (or subsystem) representing a major component of the school system. This multi-level perspective is referenced in all aspects of the ongoing decision-making process (e.g., planning, budgeting, etc.).

FIGURE 2

SUBSYSTEM FUNCTIONS RELATED TO EDUCATIONAL IMPROVEMENTS

SUBSYSTEM	EXAMPLES OF FUNCTIONS
Policy-Making System SEA	Formulating State Plan Analyzing Discrepancies Between Goals and Accomplishments Determining Priorities and Policies Regulating, Monitoring, and Certifying Determining Compliance of LEAs Reporting to Board of Education and Legislature Establishing Compliance Management System
Management-Leadership System	Allocating Resources Managing School-Community Relations Aggregating Data for Review by IEPs* Facilitating Curriculum and Instruction Reporting to SEA Relative to Compliance Staff Development, Observation, and Review
Teaching-Learning System	Diagnosing Students' Needs and Learning Difficulties Devising Learning Objectives Developing IEPs* to Meet Learning Needs Using Various Modes and Delivery Systems Evaluating and Reviewing Student Programs Instructing Individuals, Small Groups, etc.

* *IEPs: Individualized Education Programs*

Source: adapted from Culbertson, 1977, p. 295

Although the subsystems within a school district are all closely interdependent, the various elements within the total system are often treated as independent of one another. Only recently have school systems, together with state and federal agencies, begun to recognize that focusing on learning and teaching without a corresponding emphasis on management and organization will result in promising programs or innovations failing at the application or implementation stages.* For example, in implementing change programs in schools, one dimension will many times be emphasized at the expense of another (such as inservice education).

In any effort to link external resources to the schools at their level of need, it must be remembered that these levels are not independent; the instructional system, the management system, and the policy system are all subsystems in a critical balance. The linking of resources, whether internal or external, requires that each of the levels be considered.

Management and Leadership Skills

Over the years, management science and theory have attempted to define the sub-skills necessary for effective organization and orchestration of the resources necessary for quality education.**

One approach to the identification of leadership and decision-making skills in education has been developed by the Educational Research Corporation, Watertown, Massachusetts (Ellis, 1976). Their Educational Leadership Appraisal (ELA) is a performance-based procedure that assesses the individual in 20 leadership areas ranging from management and organization to problem-

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* Baldridge and Deal (1975) cite educational R&D for neglect of the policy and decision-making subsystems--both organizational features and policy implications.

** One effort to identify specific skills and competencies of central office supervisors is Critical Competency Statements developed by Ben Harris, University of Texas, Austin, 1975.

solving. As shown in Figure 3, the problem-solving dimension is comprised of several elements or characteristics of behavior important to decision-making situations.

FIGURE 3

ELA PROBLEM SOLVING DIMENSIONS

BEHAVIORAL ELEMENTS	DEFINITIONS
Problem Analysis	The ability to read or listen and pick out critical information or issues underlying the material; to seek out pertinent data; to weigh alternatives and their consequences.
Judgment	The ability to evaluate situations and persons and to reach logical conclusions based on the evidence at hand.
Political Behavior	The ability to identify what can be accomplished and how it can be accomplished and to use resources and control the situation so that it is accomplished; sensitivity to the political implications of various acts.
Decisiveness	Readiness to make decisions and to render judgment.
Risk Taking	The extent to which calculated risks are taken based on sound judgment.
Creativity	The ability to come up with imaginative solutions in management situations.
Educational Perspective	The extent of knowledge and understanding of fundamental as well as current educational principles and issues and their interrelationships with educational and non-educational issues.

Source: Ellis, 1975

A shorter version, containing five of the twenty leadership dimensions, was used to assess the skills of thirty-five school managers through observation and in-basket techniques. These five areas are listed here in the order of strongest to weakest overall performance.

Rank Order--High to Low

1. Interpersonal skills
2. Communication skills
3. Task-oriented skills
4. Problem-solving skills (as listed in Figure 3)
5. Management skills necessary for planning and organizing

Thus, the areas of problem-solving and planning/organizing were the weakest of the five leadership dimensions assessed--the abilities to pick out critical information, to make assessments of facts and situations (fact-finding, information grasp, etc.), develop imaginative ways of dealing with problems, and reach conclusions based on sound judgment. These are important elements of the manager's job, and constitute the central core of skills that the manager must possess.

Utilizing Resources

The life of the individual school system is dependent upon its ability to exchange energies or information with other resource systems. Fantini (1976, p. 4) recommends that school administrators obtain resource utilization skills in addition to those required for managing and organizing:

> How can the schools tap information and practices from within the immediate client region and from outside as well? The school manager must generate new financial and human resources and must manage creatively those resources at his or her disposal.

To reach sound decisions, a leader must be able to focus on critical information and use it in assessing situations. The relatively weak performance by administrators on this dimension of problem analysis, as shown by the Educational Leadership Appraisal (ELA), interferes significantly

with their ability to make and implement decisions. ELA participants also evidenced weak "political behavior," and in particular did not consider the power structure and resources of the school or the community that could aid or constrain them in implementing decisions. Understanding the socio-political milieu and the readiness for change in districts appears to be crucial. Administrators must develop change strategies for all subsystems as defined by Culbertson.

Underdevelopment of problem-solving skills has also been noted by the Educational Management Development Centers sponsored by the I/D/E/A/-Kettering Foundation (Willis, 1976), and by evaluations of Title III and Title IV-C projects in Massachusetts (Havelock, et al., 1977). The evaluation report (Havelock, p. 37) for the Title III/IV-C projects states:

> Although many of these projects are resource linking by their very nature, [project staff] had little to say in interviews either about the kinds and amounts of informational resources they had retrieved and made available, or about their strategies for searching and acquiring them.

Title IV-C project directors often cited the fact they they were overextended and tied to a tight calendar that allowed little time for efforts in the direction of resource retrieval.

Resources available to a local project director or curriculum supervisor within the district, and his or her interactions with the environment of the school district, are most significant to project development.

March and Simon (1958, p. 62) concur that this is an accurate observation of the field stating that "both the rate of innovation and the type of innovation will be functions of...the communication structure of the organization," which takes into account practitioners at diverse levels of the subsystems.

> The most constant elements in this configuration are the relationship between the project directors and the superintendent and the inter-connected relationship of the superintendent to his school committee and its chairperson.
>
> (Havelock, et al., 1977, p. 36)

Frequently described by the local projects are internal linkages with the curriculum supervisor, project director, or other central office personnel serving as "linking pins" (Likert, 1961, p. 182) through interpersonal communication networks to some outside resources (e.g., Lewin's gatekeeper).* Relationships in the sharing sense (Sroufe, 1975) are maintained through both formal and informal communications, social interaction, and the exchange of favors.

> For example, a superintendent's membership in an administration may be largely representational, but provides him with access to state legislators who can provide benefits to the school system. The same membership may provide the superintendent with information on some new innovative program which is the needed adaptation to some new school program.
>
> (Cresswell, 1975, pp. 105-106)

The support agency should capitalize on these existing professional relationships. Personnel from a linking agency conduct activities that are aimed at:

> Improving the capabilities of individuals in the school systems;
>
> Improving these individuals' professional capacities to function as practitioners, administrators, supervisors, etc.;
>
> Improving the ways in which schools are organized and education is managed.

---

* This concept has been further elaborated by Mintzberg's (1973) portrayal of the manager as an "hourglass" of the organization--his unique access to external information and his access to internal information.

These activities need to be carried out in a way that is complementary to the existing milieu.

Stedman (1973) proposes a "bucket brigade" of personnel who are trained to provide support services or technical assistance to the schools. He describes three specific types of personnel: "dippers," "shuttlers," and "throwers." These appelations respectively denote linking personnel who: 1) synthesize past knowledge and experience and translate it into a form useful to the client; 2) get knowledge to the place it needs to be applied; and 3) conduct the process of inserting it in the local systems. These roles are distinct and need to be thoroughly expounded in training support personnel.

There is a need for continuing review and analysis of the management/leadership domain as it relates to linking and linkage support systems. Although we have learned much about linking and support systems, and about how services are provided to school systems both internally and externally, there is a necessity for case-study examination of the processes and of the programmatic ways in which systems operate and are supported. These case studies would be useful in both a formative and summative sense and would provide a framework within which organizational support systems could evaluate their own performance, make necessary changes, and improve their ability to service local schools. Furthermore, the vast number of national diffusion systems that presently operate should be examined further to determine what is working well within those diffusion systems and how their successes might be shared nationwide. Case studies would also facilitate the identification of specific competencies needed by personnel in the linking role.

IMPLICATIONS FOR LINKAGE SUPPORT SYSTEMS

Need for Increased Service Orientation

The school may be seen as either a consumer of services or a target of change. Those agencies with a service orientation treat the school as consumer. Those with a change orientation perceive the school as the target audience. "Outside" experts have neglected the service approach. Bentzen (1974, pp. 200-201) has observed this characteristic:

> Schools have been commanded, cajoled, instructed, threatened, and bribed to change. They have been offered almost everything but trust. School staffs have been treated by interventionists with condescension, pity, scorn, and despair but rarely with dignity. It may be harder to change interventionists than schools.

To fully capitalize on the linkage of resources to schools in unstructured decision-settings, linkage support systems should act from a service orientation. However, Ward (1978, p. viii) has observed that "linking tends to be equated with change and with adoption of innovations rather than the support to program improvement efforts."

Program improvement efforts in the local schools are often incremental and characterized by political or social choice as often as by the comprehensive, "rational" choice. The characteristics of incrementalism are probably why schools seem "exceedingly difficult to change toward specific ends, particularly from the outside;" however, they do appear amenable to improvement-oriented change perceived as consistent with perceived needs and priorities (Emrick and Peterson, 1978, p. 45). A service orientation coupled with planned change strategies would more likely parallel the realities of the schools in responding to external formal and informal pressures.

In developing complementarity and improving support systems, it is necessary for the school systems to achieve a closer partnership with the providers of the many products and services being developed by federal agencies, state agencies, R&D Labs, and other organizations. In order to improve the service outlook of organizations and individuals, it will be important to understand the system to be serviced. This paper suggests a perspective in which services should be specifically related to the needs of the client school system. That is, services are offered to school systems in such a way that the needs are addressed as a first priority. The principal participants in this service/ change process must include the client school, and its status vis-a-vis the environmental forces and internal capabilities at that point in time.

In a service approach, the linking of resources occurs both internally and externally. Whether internal or external, resource linking is seen best through the recognition of interacting work groups. Because of the natural interaction within such groups, the linker can capitalize on the mutual support potential stemming from face-to-face daily contact.

> Management will make full use of the potential capacities of its human resources only when each person in an organization is a member of one or more effectively functioning work groups that have a high degree of group loyalty, effective skills of interaction, and high performance goals.
>
> (Likert, 1961, p. 181)

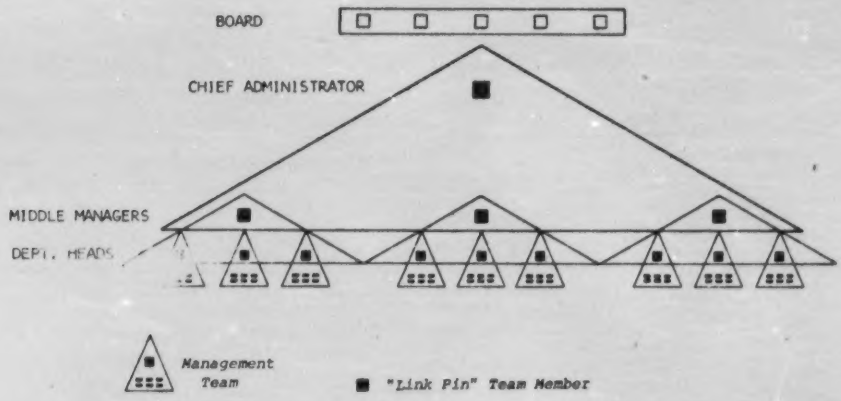
The recognition of the group potential will result in a greater effectiveness of both human and material resources, internal or external, which may be introduced to fulfill specific needs. Moreover, the very specificity of needs may be best defined through the multiple perspectives of the group.

Linking--Internal/External

In his research with groups, Likert (1961) formulated a model, frequently referred to as the "linking pin" model, which highlights the role of the administrator (Figure 4). In it, the membership of one hierarchical organizational level of a group is represented at the next higher and lower levels by a group member (manager or coordinator).

FIGURE 4

LINKING PIN CONCEPT



Source: Likert, 1961, p. 105

This model may also be seen in a non-hierarchical manner to be the basis for intersystemic models wherein the "linker role" is assumed by the interstitial broker who relates need to resources. The external linker, or linking pin, stimulates information flow to and through a group of people called "gatekeepers," who communicate with large numbers of people and pass on information on a personal basis, thus serving as "relevance filters."* Havelock (1977, p. 4) has supported this gatekeeper role as the most important and potentially far-reaching function of an information system. Homans (1950) has described a similar role in "exchange relationships" concept.

*Paisley (1971) has indicated that professionals actually rely on their colleagues to serve as "relevance filters" by selecting out appropriate information for dissemination.

The liaison or linking role is the key part of a manager's job--the connecting of the environment with his or her organization. The administrator's special access to information allows him or her to play the role of disseminator--sending external information into the organization and internal information from one subordinate to another (Mintzberg, pp. 64 and 71).

> The one enduring objective of the manager is the effort to build and maintain a predictible, reciprocating system of relationships.
> (Sayles, 1964, p. 256)

The administrator must maintain a web of relationships with numerous individuals and groups outside his or her own organization as well as within, "using his array of contacts to further the intelligence and the position of his organization" (Mintzberg, p. 78). Sieber and Louis (1979, p. 38) have also described this "boundary-spanning" function of the dissemination agencies.

To perform the boundary-spanning function, the external service agent/organization must "assess whether their capabilities match the needs of the potential client" (Emrick and Peterson, 1978, p. 43). Thus, the role of the linking agency is easily seen as that of a service-oriented facilitator that recognizes that, in order to change, the client system must be prepared to accept the input of the resource system, and indeed must provide an outreach to the service organization. This concept has been applied in the network of human service agencies and interagency cooperation.

A consistency of nomenclature and titles is helpful in service-oriented linking. Titles that are best understood by school districts (such as staff development, information resources, evaluation and the like) are those that imply functions: functions essential to the linking role as well as to

operations at the school level. This use of titles or program designations related to functions enables school and support system to identify with the person and the role--general enough to cross over a number of categorical areas (reading, handicapped, career education, and the like). The services that are actually provided to the schools will ultimately be described by these titles rather than broad and vague descriptors that imply process lacking content such as linker or facilitator.

The issue of specialist and generalist begins to surface here; the task, organizationally, is to determine ways in which the two methods can be combined. It has often been suggested that the service agency should mirror the organization of the schools that it purports to serve. The individual who desires to affect the schools as an agent of change must have one foot in the world of practice and one in the world of educational R&D.

The Natural Diffusion System

Design of a linkage system should ultimately follow the functional needs of the schools or educational systems to be serviced. An appropriate approach at this time would be to think of resource linkage as a kind of natural diffusion system available and accessible to schools. Any linkage structure created should ultimately take its form from an examination of how these natural systems operate. As suggested by the Likert model, existing systems should be utilized in the tapping of this natural capacity.

Organizations must be cognizant of this relationship of process and content. The interorganizational focus of philosophy, personnel, and process must be directed to have impact at the user level based upon the criteria of students, results, and practicality. This means a constant dialogue between researchers and practitioners for mutual reality testing.

Elmore (1974, p. 12) has depicted a "natural diffusion system" as a wealth of practical experience and inventiveness among those who have taken an interest in dissemination and planned change at the grassroots level.

> There exists a particularly fertile, natural system of innovation [that] is in no sense a rational system. It has a number of obvious inefficiencies and shortcomings. It is also very poorly understood, both by those who are a part of it and those external to it who would use it for their own purposes.

Into this "natural" environment, federal and state governments have imposed increasingly. Elmore (p. 6) cautions against the state subsuming the functions of dissemination or drawing unto itself the control of resources and alternatives that ought to be in the domain of local districts.

> The great temptation for those who would formulate state policies on educational innovation is to view the existence of such a national system as an invitation to introduce rationality, order, efficiency, and control. Any attempt by the state department to capture the function of disseminating and implementing innovations is likely to damage, rather than improve the prospects for healthy change in the schools.

Need For Local Options And Local Control. Improving local access to resources requires the location of services near enough so that users not only identify with them, but also assume accountability for the improvement of education. Therefore the credibility of the individuals who bring skills to the situation and who provide services to schools and the credibility of the dissemination agency responsible for delivering those services are closely interwoven with the school systems themselves.

Increased credibility will come to linking individuals and organizations only through a history of meeting the needs of school districts and responding to emerging problems and issues. The proximity of services to schools should enable linking support systems and individuals to respond

more effectively not only by being close to the situation, but also by being timely in meeting the needs while the issues are current.

Local districts are too small--75% have an enrollment of less than 2,500 (AASA, 1978)--and too involved with survival to deal effectively, all by themselves, with the larger issues involved in comprehensive, planned change. Furthermore, the ability to implement innovative solutions to problems depends on the existence of slack resources that can be allocated to development and planning. One way of dealing with these difficulties may be seen in the federated approach that has evolved in many states and sub-state regions to enable communities to exchange ideas and improve the allocation of resources (see for example Stephens, 1975). This has been a major determinant in the formation of service centers and intermediate districts in those states. Communities can similarly create centers or organizations for the purposes of sharing resources, becoming more effective in operating their schools, and dealing with the larger issues of planned change.

Need for Complementarity. The recommended approach to resource linkage is one of "functional complementarity" among organizations such as the schools and the resource support systems. Through a functional analysis of diverse roles and benefits from these organizations, complementarity evolves. evolves. Functional complementarity among organizations allows different interest groups (i.e., not the organizations themselves), points of access according to Grodzin's (1966) "multiple cracks" theory. Thus, there are multiple opportunities to influence policy through feedback and literally uncountable points of access for information and resources. Because this design is based on complementarity, it permits a sharper understanding of relationships among the isolated diffusion/dissemination programs and of the collective impact of these programs.

Schools need to see more of a balance of effort in the provision of information and resources. The person who desires to influence the schools as an agent of change, must have one foot in the world of practice and one in the world of R&D. Havelock has previously pointed out the necessity of the "interstitial position;" marginality is often responsible for the lack of credibility the outsider detects in interacting with schools. Furthermore, "entitlement" is dependent upon: 1) credential requirements; 2) invocation of professional expertise and previous experience within the schools; and, 3) credibility, which is obtained largely through successful practice or the successful practices of others in similar positions (Sroufe, 1975).

The credibility of the external resource also depends on priorities and funding. The practice of matching funds has long been used to obtain local investment in the innovative process. Without the matching provision, the federal government has no ability to influence the priorities of state and local governments. New funding allocation patterns need to be found that will create incentives for local schools to shift priorities and identify with changes initiated from outside.

Balancing roles and accountability will require individuals and organizations to affect a kind of functional complementarity in which the perspectives of both parties are blended in such a way that the benefits of each are enjoyed. The complementarity of functions and approaches requires that issues be resolved through interdisciplinary efforts. Organizations should pursue these efforts not only for the immediate benefits but also for the sake of learning and growth. The problems of education are becoming more complex and require this complementarity between the functions and perspectives of different organizations in the human service network.

A major question regarding linkage support systems is that of dominance of influence. The managers of schools and those who provide resources and support for schools must be on a roughly equal power footing. This implies that the direction of influence varies from time to time and that the situation is not one-sided. The school manager is not without influence of his own, influence that comes from his control over the allocation of the school's resources (Cresswell, 1975, p. 100).

Need for Improved Financial Support Systems

Not all services can be provided by any one individual or organization, whether internal or external to the school system. It is necessary to examine a number of alternative approaches to support for educational improvement that would directly relate to the functions and practices of school and alternative service-providing agencies. Schools will continually be required to make use of external and internal resources in such a way that these resources can be "brokered" to the ultimate client, or end user--the students. The current vogue favors a "grants" economy whereby an organization is provided a grant to deliver services to a user system. This approach although not without value, limits the ability of systems to change, incorporate, and adapt.

With the advent of Proposition 13 and the long overdue attention to the burden on taxpayers, there may be a swing from local taxation to taxation at state and federal levels to equalize this burden across the three divisions of government. As funding resources are moved to a higher level it is important that participation by local systems and the user systems in education not decrease, but in effect increase. This suggests that policymakers, as they begin to review the needs of education from state and federal levels,

levels, should be encouraged to emphasize the distribution of resource dollars to the local level. The operation of schools is a state and local function, and resources must be allocated to these districts so that there is a proper representation between the goals of local, state, and federal levels. Dollars can be provided to school systems conditional upon their meeting necessary guidelines that are provided in the use of these dollars. In this way, communities will not only be encouraged to participate in the change process, but will have the opportunity to sustain and grow in their efforts to provide educational improvement.

Educational Service Centers

To meet the many requirements of education, schools cannot stand alone. Diverse and multiple as they may be, complex goals are complementary, yet each one may be in some conflict with the others. A major question in improving resource access for schools is how to make the existing natural system work better. The major aim of an agency assisting in this linkage development should be to enhance this process within the schools so that they are able to reach out to form more external linkages with service-providing agencies.

Resources do presently exist within school systems as well as a number of resources related to the decentralization activities of the many agencies such as SEAs, sub-state regional centers, intermediate agencies, service centers, consortia, and the like. Governmental resources may be found in an accountable agency that, interstitial by nature, can best broker immediate resources to immediate need.*

There is a growing number of education service centers--collaboratives and cooperatives--among local school districts. Through these major service

* See for example: Merrimack Education Center, A Model for Interagency Cooperation. Chelmsford, Massachusetts, 1978.

priorities, funds are pooled for priorities such as inservice education or information dissemination. The education service center, operating in a cooperative mode, involves an agreement to work together to mutually solve problems and meet needs through new resource allocation patterns.

The key to further training of the school administrative staff, it would seem, lies in the sensitivity necessary to show individuals, particularly, work groups of decision-makers, how to best employ available resources. Immediate crises may well be resolved and longer-range objectives achieved through the development of those skills needed to use available resources with the utmost efficiency. The school as a system could avoid the all too prevalent entropic tendency through effective exchanges of energies and resources with other systems in its environment. The successful functioning of the linking agency in disseminating resources and providing resource exchange could serve to prolong the healthy state of the school and to strengthen the effectiveness of the work groups that would give leadership to the schools.

The sharing of expertise by teacher-consultants within and across districts is an effective means of staff utilization as these work groups participate in problem-solving. The approach is based simply on creating better utilization of two types of resources: firstly, that of inservice education. Through the use of local consultants and practitioners, the exchange of knowledge and practice with work groups is undertaken. The second type of resource is that of information, or programs and practices. This exchange enables local developments where practices do not already exist and, equally important, provides accessibility by practitioners to new programs, practices, and ideas that can be shared.

Utilizing an exchange economy approach, new programs and services sustain themselves since local schools contribute financially to the operating systems. The exchange economy provides a mechanism whereby the ability to collect local assessment monies is combined with the notion of investment and a return of resources and services to schools. The model works on the principle of combining a grants economy (for example, Title IV-C grant) with the exchange economy (local resources) to support improved levels of operation. Utilizing a collaborative mechanism enables the development and exchange of resources to occur so that local schools will continue and sustain services after the initial funding period has ended.

An encouraging part of the service center movement is that different types of agencies can work together through the centers. The education service centers have brought human service agencies and other resource providers together with public school practitioners. Staff from the service center are crucial to the dissemination of innovations to the school districts in an extension-agent or change-agent capacity. The service center provides an extension of the schools--as an R&D resource arm for the local districts. As common problems are identified, plans are laid to identify mutual resources. An example of how these collaborative work groups might operate in the service center is the bringing together at one demonstration site of key staffs from several districts considering a common educational project such as improving basic skills. In this way, schools are able to further develop their implementation plans based upon interrelationships established through the education service center. Klausmeier and others (1973) indicated that intermediate agencies are joining together with LEAs to form networks for the purpose of improving the quality of education as well as increasing availability of resources. Intermediate agencies,

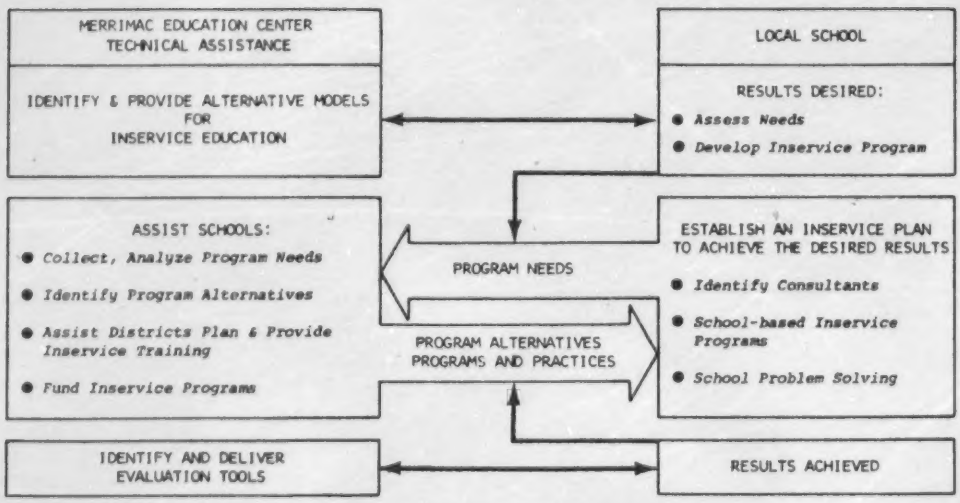
sub-state regional centers, are logical sites for this because they have the resources as well as the credibility to provide quality assistance. Activities that capitalize on shared resources of collaborating districts, of regional service centers, of colleges and other human service agencies and joint funding for these cooperative endeavors produce economies in their application.

Staff of the service center coordinate the bulk of fragmented resources to make programs and practices more accessible to local schools. The independent school will find that the service center can acquire and exchange resources and is prepared to make them available for districts.

One model (Figure 5) that has been suggested to provide functional complementarity between external resources and the activities of the schools is adapted from the basic concepts of the Educational Improvement Centers in New Jersey in their efforts to provide thorough and efficient education.

FIGURE 5

A MODEL OF FUNCTIONAL COMPLEMENTARITY



There are two essential features of this model. First, for each of the components in the local school there is a corresponding or complementary component in the external agency which provides assistance for the functions caried out in the school component. Second, there is direct two-way communication between each pair of functional components. Such models are presently emerging in the form of sub-state regional centers across the country that are affiliated with the educational service center network as part of the American Association for School Administrators (AASA).*

Educational improvement, beginning with the local schools and service centers, can be the bridge that is needed to existing external systems of resource production not only for reducing the gap between knowledge and utilization but also for creating approaches for better allocation of resources.

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* See for example: Robert Stephens, The Emergence of the Regional Education Service Concept in Education, 1975. ERIC ED 103 942.

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Chapter 5

IMPROVING LINKING PROCESSES

Charles Mojkowski

INTRODUCTION

The increasing amount of attention being given to dissemination and to linking processes has resulted in substantial gains in our understanding of these functions; however, there is still much that needs to be done. Both the UCEA monograph (Nash and Culbertson, 1977) and the Belmont Conference (1977) have served to focus attention on the need for stronger conceptualization of linking functions, but the design and implementation of many dissemination and linking activities are still characterized by inadequate conceptualization. Many of the major issues and problems requiring further attention have been identified in previous work. There are, however, a few considerations that have been overlooked or inadequately addressed. The objectives of this paper are 1) to identify and discuss these considerations, and 2) to show how their resolution will advance the goals of dissemination and linking activities.

The questions asked and perspectives taken regarding any phenomenon determine, to a large extent, the answers derived. This is as true in the behavioral sciences as it is in the physical. What led Copernicus and Galileo to see what Ptolemy and Aristotle could not see was the perspective that they had on the problems they observed. To a large extent, this same holds true for current conceptualizations of dissemination and linkage. The way questions are asked and the way problems are defined and perceived dictates the solutions that are designed. One of the major themes of this

paper will be the argument that designs for linking and dissemination are not always guided by the appropriate questions. The questions we ask are determined in part by our view of the world of education. Two perspectives are prominent in current thinking about change and improvement in schools. One focuses on the building of self-renewal and improvement capacities within schools; the other, on increasing the use of R&D outcomes in schools (Ward, 1978). The difference between these two approaches is more than semantic; each starts with a different set of questions and a different perspective.

The definition of dissemination has been expanded to include everything from traditional distribution of printed materials to the broader activity of facilitation and implementation of new knowledge. Such expansion is causing political as well as conceptual problems, since questions of domains and turf have arisen, and functions such as planning, evaluation, management, and staff development have been relegated to peripheral status or redefined as elements of a broad dissemination/linkage process. A similar expansion has taken place with respect to conceptualizations of linkage. The reports on discussion sessions at the Belmont Conference document support for a comprehensive role for linkers, while largely ignoring the activities of existing personnel operating in a service capacity with respect to local school personnel.

What is needed is a realistic and comprehsive framework for achieving an accurate perspective on dissemination and linkage. Only by asking the right questions can such a framework for guiding future study and design work be developed. The following section proposes a set of questions for guiding future efforts. Subsequent sections will deal with remaining issues and considerations for future design and development.

Asking the Right Questions

As long as the primary concern of dissemination and linkage is the underutilization of R&D outcomes and products, the potential of these activities will not be fully realized. Given an accurate determination of the real needs of schools, concern about such underuse is likely to be found to be of secondary importance.

The design of dissemination and linkage services needs to be guided by questions such as these:

1. How do schools improve and renew themselves?
2. What are the strengths and weaknesses of present school improvement efforts?
3. What impediments exist with respect to school improvement efforts?
4. What help must school personnel receive in order to make needed improvements?
5. Who is providing such assistance?
6. What are the strengths and weaknesses of such assistance?
7. What role can dissemination and linking services play in supporting the school improvement process?

The first three questions have been given considerable attention by conceptualizers and practitioners alike, e.g., Lieberman (1977) and Lavin and Sanders in the preceding chapter. Our understanding of the way schools work is improving, and will continue to improve to the degree that local school personnel are involved in the process. Answers to questions 3 and 4 vary according to the context in which the respondent finds him-or herself. Some see staff development as the answer; others favor organizational development; still others see dissemination and linkage as the best way to help school personnel. Clearly, each is a source of assistance to schools, but the development of each appears generally to be pursued independently of the

others. This is particularly true of federally supported linking systems, which have developed parallel to the systems of planners, curriculum specialists, and staff development specialists working inside or outside the schools. Questions 5 and 6 direct the attention of linkage system designers to existing support service systems within and outside schools. Question 7 places dissemination and linking services within the context of comprehensive and focused school improvement efforts. These latter three questions constitute an immediate agenda for those creating linkage systems.

The term linking is used here to refer to that group of processes aiming at: 1) closer communication among knowledge producers and users; and 2) increased access to and use of research and practice information by both communities. Given this definition, it is possible to identify a large number of existing support service roles that involve some form of linking. Indeed, it might prove more fruitful to conceive of the linking function as a central component of nearly all support service roles without reference to the specific role of a particular linking agent. This is particularly true within the area of greatest linkage impact--educational improvement in local school districts (Lavin, 1978). There are, of course, other contexts and client groups (higher education, community, legislature), but none is as significant as that which most directly affects students. Despite the fact that the Belmont Conference identified the school improvement process as the major context for linking activities, the conference minutes and reports show only superficial attention paid to the perspectives of local school personnel, and no one representing this group participated in the conference.

The linking of educational practitioners to sources of knowledge about practice improvement is not a new activity. However imperfectly performed,

such linking has been a natural part of many educational roles, from that of curriculum coordinator to university field service specialist. As recent literature has demonstrated, however, the linking process was (and perhaps still is) impeded by poor or irrelevant research, inadequate marketing and communication strategies, and inadequately trained linking personnel Too often, changes and improvements are promoted by support personnel based on an inadequate research information base and using inappropriate support strategies. There is no question but that existing support service roles have needed bolstering in these critical areas.

Based on this assessment, at least these two assumptions have been made by many:

1. The inadequacies of past and present linking activities require that they be performed by a new kind of professional--the linking agent.

2. Correcting the aforementioned inadequacies will result in educational improvement.

That these assumptions are held by many in the field of dissemination is indicated by the substantial resources being devoted to establishing cadres of "linkers" which operate with varying degrees of independence from those support service personnel already working (internally and externally) with schools: a phenomena not inconsistent with the norms of a society which replaces rather than repairs, whether it be automobiles, fashions or educational practices. It is not surprising that one of the most popular and successful dissemination efforts is the National Diffusion Network (NDN), which promotes installation of whole new programs and which has as its principal indicator of success the number of adoptions of validated practices.

Substantial arguments exist against creating cadres of new linkers. In these fiscally conservative times, it is difficult to see how resources

can be allocated to create a new profession. Enhancing linking skills and activities of existing support service personnel is likely to be more cost-effective. Indeed, experience with the development of new linking personnel teams indicates that unless external (federal) dollars are there to support them, separate teams are not established. This is true of most federally supported dissemination programs. Also, creating new roles will likely cause conflicts concerning turf and domain. Existing support service staff are likely to be threatened by personnel who advertise that they will serve the same group of clients.

The variety of interpretations about the concept of linkage largely results from designers' views of the problems facing education. Unfortunately, there are few views of the role of linkage supplied by school personnel in supporting school improvement. The perspective of the practitioners is not the same as that of the resource developers or providers. As Osview, Temkin and Maguire (1975, p. 82) stated, the practitioners, in looking for solutions to problems, do not find it easy:

> Instead of a cornucopia of new knowledge nicely classified according to the school problems they solve, the practitioners see a mass of incomplete, inconsequential and inconclusive work of varying, but largely unknown, degrees of reliability and validity. Now, if only the practitioners can make their way among these bits and pieces without being victimized by the flashy but worthless baubles, they may find some useful solution, but only by apparent accident since there is no evidence that the knowledge producers and linkers are working in the practitioners' behalf. More often than not, excursions into the new knowledge world turn out badly, and in delusion, sometimes in pain, the practitioners resolve to shape up their organization's defenses against error from the outside.

No doubt the National Diffusion Network (NDN), the Research and Development Exchange (RDx), the Research and Development Utilization (R&DU), and State Dissemination Grants Programs have done much to order the world of R&D products. Nevertheless, even this improvement facilitates a product-pushing approach more than a process-oriented, problem-solving one.

Practical experience and an understanding of system theory tell us that the problems facing schools must be treated systemically. The major barriers to local school change and improvement are not related solely or even primarily to awareness of alternatives, but to an organizational or human inability to implement needed improvements (Rubin, 1978). And implementation is not the exclusive or even primary domain of dissemination. Planners, curriculum developers, evaluators, and inservice training specialists have been laboring at implementation support for quite awhile.

Given this situation, efforts at developing information and, particularly, linkage services, need to be undertaken within the context of the existing support service structure. This context forces a consideration of the nature and scope of dissemination services within a broader context, with clients' needs as a focal point. The potential for unnecessary duplication or malfunction among personnel working with clients is thus reduced. Also, the agenda for support services moves from pushing the "product line" (validated programs and practices, R&D products, prepackaged information, etc.) to helping schools think through their real needs and ways of addressing them.

SUPPORT SERVICE NEEDS

To ask how dissemination and linking functions may be integrated with other support services for school improvement presupposes a perspective on issues which is broader than the use of information and validated practices. In Chapter 4 of this paper, Lavin and Sanders present a systemic analysis of the school improvement process and the characteristics of support services, and identify a number of variables which relate to the form such services

should take. This section uses these variables to organize discussion about issues relating to the design and implementation of linking processes.

Proximity of Services

If, as Lavin argues, the proximity of support services and support service organizations is a major determinant of acceptance and use by school personnel, then it is imperative that resources and other support be directed to organizations and individuals that have the characteristic of proximity. Proximity is not restricted to geographic location, however, since factors such as sensitivity, timeliness of response and accountability are also implied by the idea of proximity. The concept of entitlement (Butler and Paisley, 1978) is also applicable here, particularly as a predictor of the service relationships that a linker can establish given his/her proximity to the school system.

To date, the range of organizations perceived by federal funding sources as active linking and support service agencies has been somewhat restricted. Attention from the federal level has been concentrated on a narrow set of organization types, particularly state education agencies and national research centers and laboratories. These organizations usually are not perceived by local school districts as having proximity in any of the ways the term has been employed here. Close relationships between local school districts and either of those types of organizations are atypical. Although shared governance and accountability for performance is beginning to develop in some states between the SEA and local districts, school district leaders generally do not see either the SEA or national research and development centers in this light.

Intermediate service agencies, professional associations, teachers' unions, institutions of higher education, and commercial publishers are

just a few of the many organization types that have an effect on the local school system. The challenge to those who wish to enhance existing support services is to use fully the resources of this diverse group of organizations. While it is important to recognize the legal/constitutional role of state education agencies, the proximity of others, particularly intermediate service agencies, cannot be ignored. Federal dollars for dissemination activities could be directed to such proximate organizations, and incentives might be provided to SEAs to encourage them to expand their work with other organizations in more proximate positions.

Balance and Complementarity

Balance and complementarity are complex requirements of linkage and other support services efforts, and their importance can be seen in several features of existing service systems. The major implications relate to the systemic nature of the problems facing school personnel. To undertake curriculum retooling is also to undertake (at a minimum) staff development, evaluation design, budget reallocation, and community relations. Every change effort affects the total system of functions. However, service organizations seldom address improvement needs systemically. Despite an emphasis on the systemic found in the abundant normative and theoretical descriptions of linkage, the typical manner of service delivery is fragmented and compartmentalized. Such compartmentalization forces a piecemeal approach to a complex set of interconnected problems.

This fragmentation has not been eliminated by those designing and implementing dissemination and linkage programs. Although one of the principal goals of their efforts is the orchestration of dissemination activities within state education agencies, within states, and even across states, their coordination efforts frequently have not been extended to other support services

relating to local school district improvement activities. This fragmentation between dissemination activities on the one hand and other support services on the other may appear to contradict the point made earlier that the definitions of dissemination and linkage are expanding into areas traditionally thought of as part of these other support services (e.g., staff development, planning, and evaluation). This is not the case. Instead, it appears that disseminators and linkers sometimes are taking on these functions while failing to colloborate with those organizations and individuals which have been and are performing them. Thus, for example, linkers operating in an SEA or intermediate service agency sometimes duplicate the efforts of curriculum planners and evaluation specialists, as well as other process and content consultants within the same agencies. As a result, local school district personnel sometimes receive fragmented solutions to their problems.

There are, however, a few positive examples of coordinated delivery of support services to schools--services in which dissemination and linkage play important roles. Such efforts as the Gestalt Program in Mighigan (Michigan Department of Education, 1977) and AB 65 (California State Legislature, 1977) are based on a generic educational accountability model and focus a variety of support services from the SEA and other support agencies on the needs of each school building.

Increased Service/Consumer Perspective

Much of the literature dealing with dissemination and change defines local educators as the clients or consumers of support services. However, this consumer perspective often is not translated fully into practice, primarily because these consumers have little involvement in the design and development of services (Lingwood and Havelock, 1977). Despite the rhetoric of capacity building, most major dissemination programs are not focused on

improving and expanding local district capacity, but on expanding the external organization's capacity to serve. The question, of course, is not whether such capacity building of service organizations is needed; it is. However, the need to build self-sufficiency at the local district level is more important because of the degree to which this task has been neglected (as well as for other reasons discussed below).

One result of inadequate attention to the perspective of the school practitioner is that linkers have not operated sufficiently in a feed-forward mode--informing knowledge producers of the unmet needs reported to linkers by school personnel. As long as the goal is the implementation of R&D products and outcomes, the major flow of communication will be from producers to practitioners.

That current support service organizations and individuals find it difficult to fulfill a true service and local capacity building role is related to the agenda of the organization or program which provides linkage and other support services. To the degree that a support service organization has objectives and activities which do not parallel those of local school districts, to that extent will these support service organizations find it difficult to respond completely to local needs. This concept is particularly important with respect to agencies like SEAs, and, in some cases, intermediate service agencies. Much has been written concerning the difficulty of regulatory agencies in establishing an acceptable service role vis-a-vis LEAs. The SEA is not accountable to the local district but to state boards and legislatures. Where a service role has been achieved, it has often been realized after much tension within the agency.

Many states have a mandated school improvement process which requires a determination of local priorities and program objectives in addition to

statewide priorities established by a Chief State School Officer or state board. Where the two sets of priorities do not overlap, local districts may perceive a loss of autonomy and a lack of integrity in the local school improvement process, particularly if substantial resources and support services are allocated to state priorities at the expense of support for locally identified priorities.

Although a good many agencies are finding it both feasible and expedient to establish a service capacity with respect to schools, often the mission of the organization dictates the focus and the type of services to be provided. Most linkers working within such agencies have a product line, whether it be prepackaged information, validated programs and practices, R&D products, or new problem-solving strategies. To the degree that this is so, the real needs of schools (sometimes poorly perceived by school people themselves) become shaped to the resources available.

State mandated programs of accountability sometimes fall into this category. Linkers associated with state education agencies often market their services within the paradigm of needs assessment and accountability. More often than not these processes are based on an overly rational approach to school improvement--a process which often is inconsistent with the way schools are forced to deal with their improvement efforts.

The typical product line does not, perhaps cannot, take into account to a sufficient degree the quantity and quality of the factors impinging upon and shaping school problems. Despite Crandall's (1977) conception of the "superlinker," the majority of linkage services remain narrowly focused, either because of a limited organizational or programmatic agenda, or because of the impossibility of dealing with the complex set of circumstances in which school practitioners find themselves. Thus, the organizational

agenda which is carried as "baggage" into a service relationship with school personnel disposes the linker to see most problems as being solved by the use of his or her product line. Such an approach often fosters an analysis of the wrong problems and prevents a comprehensive improvement process from actually taking place.

Finally, the role of the linker is influenced strongly by the nature of the incentives provided for his or her functioning. What a linker identifies as success is determined by the rewards or sanctions attached to the objectives of his or her activities and by the ultimate objectives of the support service organization. Success for most present linkage efforts is measured in terms of the number of programs adopted, information packages distributed, and workshops provided. None of these success criteria are established by the client. Typically, the linker's accountability focus is directed toward the parent organization, not toward the client.

Thus, there appears to be a dynamic and not always productive tension existing between the agendas of linking organizations and those of the schools they wish to serve. As was mentioned previously, those educators not directly involved with the day-to-day administration and management of the teaching-learning process tend to impose rather rigid, rational problem-solving processes on school personnel. The organizational agenda is often a response to a legislative mandate or a statewide priority. The process designed to facilitate improvement is viewed primarily as a means to initiate change. School personnel tend to see the process itself as a major change and react to it as they would most any complex innovation--with rejection.

Linkers operate between the two agendas and cannot operate neutrally in such an environment. The image of a linker from a state department of

education, institution of higher education, or intermediate service unit operating with a neutral agenda is inconsistent with our limited experiences with linking agents thus far.

Review and Analysis

Perhaps because of the rapid development and implementation of linkage services and the resource commitments which such activities require, there exists a sizable gap with respect to documentation and evaluation of such services. Given the state-of-the-art of knowledge and experience concerning linkage, and given the quasi-experimental nature of most of the federally sponsored programs, it is surprising that so little documentation and evaluation information exists. Policymakers at several levels will require such information, particularly because of the potentially high costs of supporting nationwide linkage systems. Design modifications in service and resource systems also must be based on accurate descriptions of existing practices as well as on reliable evaluation information.

Review and analysis activities may be supplemented by investigations of similar efforts in other fields. Studies of noneducational linking systems do provide some useful suggestions for investigation with respect to educational linkage support systems. Whole paradigms from these other areas, however, are not likely to be directly applicable to the educational environment. Marked variation exists with respect to clients, resources, political (decision-making) environment, and tradition. Drawing inferences about the future of educational linkage support systems from past and present efforts in other areas (agriculture, industry, human services, and medicine) should be undertaken with caution. The tendency is to adopt new ideas from other areas and suffer through misapplication of them. There

is a need to develop a conceptual design for an educational linkage system before borrowing heavily from other areas. Once the framework is in place, we can be more confident about applying the adaptations we make of experiences from other fields.

As difficult as such undertakings are, there is a need for an increased quantity and quality of investigations into the ways that school personnel seek and use knowledge along with other support services. Development of resources is often based on normative descriptions of school improvement efforts. Practitioners and support service personnel may not recognize themselves in the caricatures created by those who either sit outside the school system or who deal with only one part of the proverbial elephant. Funding locally controlled documentation and evaluation efforts may help to address this inadequacy.

Integration of Internal and External Support Services

To date, the predominant amount of attention has been given to supporting linkage and other support services external to school districts. Recognition has been given to the need for linking and supporting linkers operating under several other titles within school systems, but the allocation of resources to support these linkers has yet to be accomplished. Perhaps also because the design of such systems thus far generally has not included school personnel, the emphasis has been on external linkage.

Original conceptualizations of the linker (Havelock, 1969) stressed the boundary-spanner function in terms of persons outside the school system. Persons undertaking linkage functions within school systems can perform as boundary-spanners as well. The placement of the linker is an important factor in promoting knowledge use. Butler and Paisley (1978) estimate that internal linkers will come to comprise more than ninety percent of linkers.

While the estimate itself may be debated, the prediction does serve to raise the issue of internal versus external linkers beyond that of a theoretical debate. The issue involves questions of research and theory. The major question appears to be: Why are federal resources not directed to the support of internal linkage systems? Given these tight-money times, it is possible that a large external linkage system is likely to be perceived as another layer of unnecessary and duplicative bureaucracy.

Some of the arguments against the internal linker have focused on two issues: 1) the inability of the internal linker to be perceived as an unbiased helper; and 2) the difficulty of performing linkage functions as a part of a larger, more traditional role, such as curriculum coordinator, resource teacher, or principal. The first issue appears to be a weak argument. Whether inside or outside the school system, no linker can operate in a totally neutral manner. The second issue is more complex. Performing linking functions as part of another role may diminish the time available for providing linking functions as services, but it has some advantages as well, advantages which would appear to apply whether the linker were internally or externally situated.

It might be argued that to stress the development of full-time linkers may be detrimental to both support service organizations and to the clients they serve. The isolation of specialties from one another has hampered our efforts to orchestrate several services and resources in many areas of education. The full-time linker may be recognized as a distinct and sometimes competitive role by others who serve local school personnel. Given that knowledge utilization is a generic and integral part of all change and improvement activities, it is likely that integrating linking functions with other existing support service functions (whether internal or external) will have substantial payoff.

The task of designing and developing linkage services capacity should be one of expanding existing service roles. The first step is to identify those local practitioners that are performing, however imperfectly, linking activities or are providing some other support services to school personnel. Then, through staff development, the linking skills of these persons can be improved and integrated with their other external service functions.

There appear to be some trade-offs operating in situations where linkers and linking agencies operate in that capacity for only a part of their total activity. Some have argued that a part-time linking role is either a contradiction of the concept or nearly impossible to carry out successfully. If linkers are burdened by other responsibilities, they are not likely to conduct the linking role adequately, either because of their own malfunctioning or the perceptions of their clients. Others argue that there is a danger in the linker and linking organizations becoming isolated from the mainstream of education. Having linkers operate solely in that role assumes that there are some discrete functions that need to be carried out independently of other service relationships with school personnel. The proof of such discreteness, however, is still forthcoming.

Despite the importance of the teaching-learning system as the locus of change and improvement, Lavin reminds us of the need to address the management-leadership and the policy-making systems operating in local school districts. It is possible to conceive of these last two systems as sources of internal support for the teaching-learning system.

Depending on the size and resources of the district, principals and teachers have available to them various support services within the district. Such services as curriculum development, planning, evaluation, and staff development are usually available only to teachers in large districts.

Even taking into account the natural intra-organizational and intra-system barriers, it would appear easier for school personnel to use, and for these internal support personnel to offer, these services. Certainly this situation accounts in large part for the difficulty of effecting interventions in large school districts through externally based services. For a teacher to go outside the district to obtain assistance which is available from within is not a normal pattern.

Improved Financial Support

A basic concept in planning is that one cannot plan for others; the potential beneficiaries of a plan must be involved in the process or they may not accept the plan. The same holds true for the design and implementation of support services for schools. School personnel must be given shared control of the design and implementation of services if they are expected to accept and use them. It is likely that, if the federal dollars currently going to state education agencies and to regional labs and centers were given instead to local school districts, linkage and support service systems would be designed and implemented differently.

The argument against flowing resources to schools is based primarily on logistical and control problems (as well as the political problems of bypassing SEAs or labs and centers). It would appear, however, that a split distribution of resources might serve all parties well, while providing incentives for the shared design, implementation, and accountability which are required if the services are to continue and improve. Funding patterns originating in Washington should be examined, not only to determine ways in which dissemination-type resources can be made to flow from producers and developers to users, but also to determine ways in which local school systems as users will receive a flow of dollars with appropriate

conditions or guidelines being provided by state departments. The intent here is to provide a realistic balance between the consuming and the producing systems.

DESIGN REQUIREMENTS

The development of adequate design requrements for a system can be accomplished only after an adequate functional analysis has been completed. Given that such an analysis is not part of this present effort, considerations regarding design are broad and tentative. Also, system design requirements for a linkage system cannot be delineated fully in the absence of decisions about pending conceptual issues. Indeed, it is likely that these issues will never be fully resolved in such a way as to provide specific guidance on the kinds of linkers that ought to be supported. It may be argued that we cannot talk about a system, since the organizations which can or do serve as dissemination and linkage support agencies do not conform perfectly to systemic characteristics (Guba and Clark, 1974). While it is true that the elements of linkage do not always operate as a perfect system, this is not sufficient reason for denying the existence of a substantial number of systemic features within the collection of elements. It does not appear to be the case that dissemination is either a system or a configuration. Nevertheless, having systems design as a goal is neither inappropriate nor unrealistic, particularly in light of the growing federal effort in this area.

As was indicated previously, whatever linkage system is developed must be shaped in such a way as to fulfill the functions for which it was designed. Sieber's (1975) requirements for a national R&D system are applicable to this task. He cites, for example, the need for balance among the various elements

of the R&D system. So, too there is a need for balance between the suppliers of knowledge and the users of knowledge, between building a capacity to use as well as a capacity to deliver. Following are some specific requirements which the nationwide linkage support system should address:

1. The system should reflect the needs of both linkers and school practitioners. Even valid and reliable needs-sensing activities are insufficient if they do not allow the client to determine the form of assistance required as well as the content. Most needs-sensing activities stop short of involving the client in the negotiation of the services to be provided. The product line of the linking agent or agency should not be allowed to overshadow clients' needs.

2. Linkage support should be provided as close to the level of the practitioner as possible. Linkers operating out of a state education agency cannot reasonably be expected to serve directly the needs of school personnel. The problem is one of logistics as well as entitlement. It is fashionable to talk about influencing the teaching-learning situation but, for all practical purposes, most external linkers will not find it feasible to work directly with teachers on an ongoing basis.

3. The system should focus on building capacity for improvement and self-renewal in the school. Efforts should be undertaken to develop the internal linking capacities of personnel in school districts. As long as the majority of resources are used to support external linkages, it will be perceived as imposing another layer of bureaucracy on the school district.

4. The system should have built-in variation with respect to conceptual approaches, types of linkers, resources provided, and clients served. Most variation which exists at present is a function of bureaucratic funding patterns rather than a deliberate empirical test of various types of linkers. Most of our dialogue concerning what works in this area is folklore. What we can be moderately sure of (see Paul, 1977) is seldom retested through variations.

5. The system should include a wide variety of organizations and agencies. The DAG Report advocated the use of multiple channels for delivering assistance to schools. We know that practitioners obtain advice and assistance from a variety of sources. State education agencies, professional associations, intermediate service agencies, institutions of higher education, and commercial publishers need to be supported in their efforts to assist schools.

6. The system should require quality control documentation and evaluation activities. Most of our current linkage programs are characterized by inadequate documentation of linking activities and poor quality control and evaluation strategies. Design changes require such information. Policy decision-makers will demand such information, particularly because of the potential high costs of supporting a nationwide linkage support system.

ISSUES AND PROBLEMS

Those who design a nationwide linkage support system will need to address a number of questions regarding the operation of such a system:

1. What kinds of improvements will be supported? Will the product line of the linker be determined by federal agencies or will school practitioners have a role in identifying the services they require? Emphasis is likely to be on large, visible efforts such as adoptions of whole programs, particularly those "validated" at the federal level. The issue of whose agenda will be served by the linkage support system must be addressed.

2. Who is to participate in the design of the system? How will such participation be encouraged and organized? Thus far the range of designers has been limited to federal, state, and R&D Lab and Center personnel. Other organizations as well as clients and linkers themselves need to play key roles. This is a basic concept in planning and major improvement efforts. Yet thus far it has been neglected by those supporting linkage systems.

3. What is the federal role to be? Where should the federal agencies put their dollars? How are fragmentation among the several federal efforts in this area being diminished? As with most other dissemination efforts, the development of a nationwide linkage system is impeded by the unnecessary duplication and unsystematic variation among various linkage programs.

4. What are the goals of our efforts to be? How do we define success? What do we mean by "utilization?" Too often, the indicators of success have focused on variables of interest to the federal agencies. Unless we can define our success in terms of the indicators identified by local school personnel, the system is not likely to gain the support of these significant individuals.

Obviously, the design of the system will not wait until all of these (and other) questions are answered. Indeed, some of these questions may never be answered satisfactorily. It is important, however, as we move ahead with design activities, to continue to raise these and other important questions.

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Chapter 6

PERSPECTIVES ON EVALUATION, LINKAGE, AND PROGRAM IMPROVEMENT

Adrianne Bank

Nancy C. Snidman

Marcella Pitts

INTRODUCTION

A cursory glance at the past 15 years of federal involvement in education shows that new roles and functions have been created to support the educational administrator's efforts to improve the schools. Perhaps most notably, federal assistance for applied research and development activities in education during the 60s has resulted in a demand for evaluators and linkers during the 70s (see Sieber, 1974). Evaluators and linking agents are now performing some of the tasks initiated by research and development.

During the 1960s the prevailing conceptualization presented the change process as a sequential chain--starting with the production of new knowledge by researchers, the incorporation of that knowledge into products or programs by developers, the evaluation of those products or programs by evaluators, and their dissemination to schools by disseminators. Funding during the 1960s and early 70s supported the first three stages: research, development, and evaluation. Evaluation activities at the federal, state, and district levels expanded rapidly.

Within the past few years, increasing attention has been paid to the last stage--dissemination activities. Initially, dissemination was conceived of in traditional marketing terms; that is, a demand for these newly created R&D products, often attractively packaged by publishers, had to be stimulated. Schools must be convinced of their need for these new products,

either through scientific evidence that the products "worked" elsewhere, or through more traditional advertising. Successful dissemination was measured by sales figures. Recently, however, the federal perspective has shifted. Rather than being viewed as customers who must be "sold," schools and school districts are regarded as patients who must be diagnosed. Disseminators, i.e., middlemen allied with the producers of products and services have transmuted into linkers, i.e., middlemen allied with the consumers of products and services.

Now, linkers and evaluators, at least in principle, share a common service orientation toward educational improvement efforts. The individuals performing within these two newly expanded occupational roles have come to their positions, for the most part, from other disciplines. On the whole, educational evaluators have had their training in basic research methodology, statistics, psychometrics, or behavioral psychology. Linkers, on the other hand, are likely to have been teachers, administrators, or curriculum specialists with ties to content areas or to the disciplines of organizational development or management.

Currently, both evaluator and linker occupations seem to be in search of professionalization. They seem to be looking for a claim to "special esoteric competence." Future recruitment, training, monitoring, and standard-setting will depend on whether attempts at definition of roles and functions produce a coherent set of tasks to be performed by a single individual, or divide tasks among roles already institutionalized within school settings.

Of the two fields, evaluation is further along in explicating its theory and practice. Fifteen years of sobering experience have brought evaluators to recognize the complexity of the school setting and its

decision-making processes. An earlier view, holding that evaluation is a one-shot activity narrowly focused on student achievement, is being modified in favor of the view that evaluation is an ongoing service, providing information of use to clients on a range of implementation and outcome questions. There is now considerable support for Provus' position (1971, p. 22) that:

> ... both administrators and researchers must see evaluation as a continuous information-management process which serves program-improvement as well as program-assessment purposes. The complexity and concomitant high cost of effective evaluation must be recognized as a necessary management expense somewhat similar to high insurance premiums.

This program improvement orientation for evaluation, with its concomitant management overtones, implies that an evaluator should have not only technical but other skills as well, skills that enable him/her to be an "information linker," "program facilitator," "process enabler."

These particular skills are listed by Crandall (1977) among those also essential to the role of linking agent. Other linking agent skills on his list are: "resource arranger," "technical assister," "data feedbacker," "capacity builder." In discussing the specific substance for these linker roles, he includes the tasks of evaluation and documentation: "... producing data useful to the real direction of the project effort ... providing for some sort of summative or impact assessment of outcomes; and documenting the work effort" (p. 253).

Is there any significance to evaluators in the emergence of linkers? Is there any significance to linkers in the existence of evaluators? How do linkers and evaluators interact with each other and with the administrator they are both trying to serve? This triad of questions defines the focus of this paper. While other papers in the series examine the supports and

training needed for the optimum functioning of linkers, this paper looks at the range of relationships that linkers might have with evaluators already in the educational establishment. For the purposes of our discussion, we define as evaluators that limited set of individuals who work within school districts as evaluators; and as linkers, that limited set of individuals who are external to the school and so designated as linkers within their federal dissemination efforts--the National Diffusion Network (NDN), the Research and Development Utilization (RDU) project, and the Capacity Building (CB) project.

Before examining the relationships between evaluators and external linkers, we will briefly sketch the conceptual development of both fields, indicating how and where we believe them to be divergent and how and where convergent.

BACKGROUND: EVALUATION AND LINKAGE

The rapid emergence of evaluation and linkage in recent years was simulated by federal efforts to promote research, development, and school improvement activities. Program evaluation in its current incarnation probably dates to the early 1960s; linkage, to the early 1970s. However, neither field was created simply by legislative fiat. Indeed, both have a long history of conceptual development.

Early Evaluation Activities

The beginning of formal program evaluation dates back to the turn of the century and the growth of the public service movement. As the number of health and welfare programs began to grow, so did administrative and legislative concern with judging the worth of these programs, especially

in light of demands to justify expenditures (Anderson, et al., 1973). These early program evaluations, however, were merely countings and recountings of services delivered. Critics' demands for justification of school spending, pressures to apply industrial efficiency procedures to the schools, and the mandate of the Federal Bureau of Education (now the Office of Education) to "show the condition and progress of education" resulted in the application of formal evaluators.

Between 1910 and 1920, a number of large school districts established research offices. These offices conducted surveys to answer questions about the efficiency of the schools, such as: "What return (in terms of numbers of students educated) is the community getting from its investment in the schools? How can this investment be made to yield greater returns?" (Callahan, 1962). Focusing on inputs and processes such as fiscal information and attendance statistics, the surveys supplied little assessment of outcomes (Anderson, et al., 1973). In short, they concentrated on data collection activities rather than on evaluation (McGranahan, 1978). With the exception of a frequently cited study by Joseph Mayer Rice--a forerunner of the National Assessment of Educational Progress (NAEP)--which took account of educational outcomes (i.e., spelling), few studies of this period provided answers to questions about the merit of educational programs (Merwin, 1971).

During the 1920s, the development of aptitude tests, standardized achievement batteries, and personality and interest tests within the fields of educational and psychological measurement made possible the individual testing of students to assess a program's impact. (Educational and psychological measurement experts have had a strong influence on evaluation practices over the years. Their influence is still evidenced by the emphasis given to formal testing in current evaluations.)

In the 1930s the character of educational evaluation was substantially changed by two events. First, accrediting agencies had gained a stronghold in education, and their ascendance marked the beginning of what was at least a "quasi-evaluation" trend in education (Worthen and Sanders, 1973). Second, in the well-known Eight Year Study, Ralph Tyler (1950) employed an approach to evaluation that has influenced the design of like studies for 30 years. Called the "goal attainment" or "behavioral objectives" approach, it determined the congruence of student performance and program objectives (which were stated in terms of measurable changes in student behavior). This was a substantial change from the strategies employed in the 1920s. For the first time, evaluation focused on the relationship between student learning and educational programs (Tyler, 1942, 1950). Employed extensively in the 1940s to assess the effectiveness of wartime training programs in bringing about prespecified changes in soldiers' behavior, the Tylerian approach to evaluation is still prominent. It is used in the National Assessment of Educational Progress, and is reflected in the writings of W. James Popham (1975) and Jason Millman (1974).

Emergence of Educational Evaluation as a Discipline

Beginning in the 1950s, several events accelerated the emergence of educational evaluation as a substantive field. During the late 1950s and early 1960s, the post-sputnik years, political pressures for curricular reform resulted in nationwide curriculum projects, such as PSSC Physics (NSF) and Project Social Studies (USOE). These proved to be an impetus toward new evaluation procedurals. Evaluation had previously been a locally mounted small-scale enterprise; large-scale evaluation studies based on national samples and employing sophisticated research designs were almost

nonexistent (Wholey, et al., 1970). Educational evaluation was unprepared to cope with the scope of these new curriculum projects and the issues and problems they raised. But no sooner had evaluators gained some experience with the technical problems of instruments and design relative to large-scale curriculum projects than they were barraged with new federally mandated programs. The social legislation of the 1960s, especially the 1965 Elementary and Secondary Education Act, called for program evaluation to ensure accountability. It was hoped that data about student learning, if given to the public, would force administrators to make program improvements. Such hopes went unrealized. For the most part, the evaluations that were conducted to comply with the requirements of Titles I and III of the Elementary and Secondary Act (ESEA) were poorly conceived and executed (Guba, 1969).

During the 1960s and early 1970s, experience in applying evaluation concepts and techniques was accumulated in several large-scale studies. These included the Westinghouse evaluation of Project TALENT (Flanagan, 1964), the Coleman Report (Coleman, et al., 1966), and Head Start (Cicirelli, et al., 1969). These studies paved the way for the more recent Head Start Planned Variation Study (Rivlin and Timpane, 1975), and Abt Associates' evaluation of Follow Through (Cline, et al., 1975).

During this period of rapid growth in the 1960s, evaluation was based on a complex assumption: that an evaluator, who was usually external to a program, could apply social science research designs and instruments to determine the effectiveness of a single program at one point in time, thereby providing policymakers with an objective basis for making decisions about allocating educational resources. Generally, the evaluator was expected to have little impact on program planning or on the operation of the program. He or she

frequently was called in only after a program had started or, in some cases, after it had ended. This mode of attack has recently been labeled the "mainstream" view of evaluation (Ross and Cronbach, 1976). The ways in which evaluations are formulated and the extent to which evaluation results are utilized when this mainstream view is adopted have been a source of dissatisfaction (Rossi, 1972; Rossi and Williams, 1972; Guttentag, 1975; Ross and Cronbach, 1976; Parlett and Hamilton, 1976). In response to criticism about their inability to deal with local contexts, their failure to acknowledge the diverse questions posed by competing interest groups, and their denial of program changes during implementation, the evaluators have been busily reconceptualizing their field.

In the 1960s, Cronbach (1963) and Suchman (1967) suggested that evaluation be viewed as a continuous process of assessment for program improvement, instead of as a process meant to grade a program pass or fail. Scriven (1967) distinguished between educational evaluation that judges merit of an educational practice for producers (formative evaluation) and for consumers (summative evaluation). In his "countenance" model, Stake (1967) proposed that the evaluator interpret judgmental data from various audiences included in and affected by the program, make judgments himself, and "attend to what was intended." The "decision facilitation" models of the early 1970s, such as the early CSE model proposed by Marvin Alkin (1969) and Stufflebeam's CIPP model (1971), emphasized the provision by the evaluator of relevant information to program personnel throughout the life of a program. These models considered evaluation to be a feedback mechanism where the evaluator is an objective third party who services program management.

Ross and Cronbach (1976) have contrasted mainstream evaluation models with an "alternative and extended" view of evaluation. Here, evaluation is considered to be an ongoing internal component of the program itself, focusing on the interactions among individuals, and the effects of the program on the school institution, as well as looking at student learning outcomes. The evaluator uses an array of procedures to describe what is happening, and his reports are considered updates of the system's picture of itself. Stake's T-City Evaluation (Stake and Gjerde, 1974), and the OE-BEH-sponsored judicial evaluation of the Individualized Education Plan (IEP) and requirements of PL 94-142 are examples of major studies employing a range of quantitative and qualitative methodologies.

These newer approaches not only use a variety of methodologies, they also enlarge the range of events brought under scrutiny. For example, Stake (1975) suggests that the evaluator focus on program activities rather than on program goals, respond to the audience's information requirements, and acknowledge the differing value positions in the audience when reporting evaluation information. The evaluator gathers data from many sources and prepares narratives, portrayals, product displays, and graphs to characterize the program.

Identifying and responding to the perspectives of people who are involved in and affected by a program--both adults and students--are primary concerns for evaluation theorists who are exploring the use of a judicial metaphor. The purpose of "judicial" (Wolf, 1975) or "adversary" (Owens, 1973; Levine, 1974) evaluation is "to illuminate, inform and adjudicate issues based on the consensus of individuals affected by or involved with the object or activity being evaluated" (Guba, 1978, p. 36). Concepts from jury trials and administrative hearings are applied to educational evaluation

with the aim of clarifying complex educational issues and exploring various sides of the issues.

Transactional evaluation is a term coined for the focusing of evaluation attention on the interpersonal and organizational elements of program implementation. A transactional evaluator clarifies issues in the evaluation context, draws out people's concerns, finds a common ground for debate, and provides continuous feedback to concerned parties (Rippey, 1973; Pitts, 1978).

Illuminative evaluation, another emerging approach, concentrates on description and interpretation rather than measurement and prediction "to provide comprehensive understanding of the complex reality (or realities) surrounding a program--in short, to illuminate" (Parlett and Hamilton, 1976, p. 153). Gathering information through observations, interviews, questionnaires and tests, and analysis of documents and background information, the evaluator functions as a social anthropologist or natural historian. He does not manipulate the complex situation he encounters; rather, "his chief task is to unravel it, isolate its significant features, delineate its cycles of cause and effect, and comprehend relationships between beliefs and practices and between organizational patterns and the responses of individuals" (Parlett and Hamilton, p. 147).

As this brief review suggests, educational evaluation is being fertilized at the conceptual level by other disciplines, and is enlarging its repertoire of concerns and techniques. The mainstream view of evaluation, which looks for causal relationships between a limited set of program components and a small number of measureable student outcomes, is being augmented by alternative views of evaluation which look for ways of conceptualizing

and describing the complex interactions of events occurring within a given setting. The ultimate hope of all evaluators is that evaluation data will describe, explain, or predict educational phenomena in such a way as to beneficially affect student learning.

The same general aim informs the work of linkage agents. But, whereas evaluators respond to the desire of school personnel and policymakers to understand the specific effects of alternative educational programs, linkers respond to the need of school personnel and policymakers to acquire and utilize new information, including that produced by evaluators. Linkage agents have emerged as middlemen in the increasingly complex American educational enterprise.

Emergence of the Educational Linking Function

Before the turn of this century, the country's school system consisted of relatively autonomous local schools, loosely organized within districts subject to state rather than federal authority. Without any central agency or communication system, there was little exchange of information among schools or communication between university researchers and school practitioners (Office of Education, 1969). However, by the early 1900s, educational journals began to appear in increasing numbers, and a professional community of educators was developing (Butler and Paisley, 1978). In addition, scientific methods of inquiry began to be applied to education. Educational research laboratories were established in universities. The knowledge acquired from their research did not find its way to the public schools for many years: dissemination of results was limited because of ineffective methods, lack of confidence in the findings of the university laboratories, and lack of interest (Office of Education, 1969). Although

research units began to be organized within public school districts to conduct "evaluations" in the form of surveys, the major interest in dissemination of innovations and educational change had to wait until local interests and needs could not be satisfied by local offices acting alone.

Some changes in the educational picture were occurring during the early 1930s. Results from the university research laboratories had begun to filter down to the schools; there was increasing interest in new materials and techniques, and more attempts to utilize them. Evaluation efforts shifted from survey research to an examination of the impact of curriculum on goals and student behavior (Tyler, 1950), and produced judgments about the effect of new programs. These stimulated interest in the dissemination of new workable interventions. It was also at this time that consortia called school study councils were formed to promote communications between school districts.

With World War II came instructional technology and the advances in evaluation previously described. Concurrently, there was a growing awareness of the need for a coherent dissemination system for those educational innovations identified as effective by these evaluations. For example, the National Science Foundation (NSF) became involved in educational improvement in the areas of math and science instruction. An investigation of the situation in the nation's school science programs found little correspondence between new knowledge in the field and information contained in textbooks. It was becoming clear that massive dissemination efforts were needed to update instruction and materials in the schools. Title VII-B of the 1958 National Defense Education Act (NDEA) contained the first dissemination authority given to the Commissioner of Education. This title introduced a wide range of dissemination responsibilities including dissemination of

information about new educational media, state education agency (SEA) and local education agency (LEA) research, studies about utilization, materials to increase the use of educational products, and in-person assistance to SEA, LEA, and higher institutions in use of new instructional media (Butler and Paisley, 1978). The response to this act was widespread. Many dissemination projects were instigated by the federal government, including the Educational Resources Information Center (ERIC), the first R&D Center (Pittsburgh), and the plan for the other regional laboratories. Title IV of the Elementary and Secondary Act (ESEA) of 1965 established the Division of Information Technology and Dissemination (DITD).

The dissemination strategies of the early federal government-sponsored projects employed printed material, ERIC information, replicable R&D products, and audiovisual materials. Evaluations of these strategies have made it clear that they have been generally unsuccessful; their lack of impact is documented in a survey completed by the Bureau of Social Science Research in 1968-1969 (Office of Education, 1969). The survey found, among other things, that school administrators did not seem to be aware of connections between the school system operations and educational research activities. Sixty-four percent of the respondents (n=342) gave no answer when asked to identify influences of educational R&D on school practices in their counties. The fact that the information was available in printed form did not result in schools obtaining that information, and obtaining the information did not result in its use. The question for the 70s, then became "Now that we have an enormous store of good products and techniques, how do we efficiently get them into the schools in a form that will be utilized?"

We now know that dissemination of an innovation takes more than the marketing of new information or products. There is evidence to suggest that

intermediaries between products and schools are needed. The presence of such an individual or agency throughout the adoption process may promote greater understanding, confidence, and support toward the innovation (Carlson, 1965; Havelock, 1969; Gross, Giaquinta, and Bernstein, 1971; Emrick and Peterson, 1978). Federal projects of the last few years have reflected this belief in the importance of change agents (e.g., the Pilot State Dissemination Project, the State Capacity-Building Project, the R&D Utilization Program, the National Diffusion Network).

The evolution of thinking about dissemination seems to parallel that of evaluation theory. At that time in the 60s when evaluation was dominated by mainstream causally-oriented approaches, dissemination attention was focused on the marketing and installation of replicable R&D products. The later decision-facilitation models of evaluation seem analogous to the problem-solving model of change (Havelock, 1969a) in that a user problem is diagnosed and a solution chosen, implemented, and if effective, institutionalized. Current evaluation models, which emphasize description of relationships among program components, and the new linkage models of dissemination, which emphasize reciprocal feedback between the resource system and the user system, represent a fresh emphasis on the implementation of an innovation and on the context within which the innovation is placed.

From the preceding review, these general observations can be summarized:

- Evaluation and linkage are sets of functions that may evolve into distinctive educational occupations. They are energized and financed, for the most part, by federal involvement in education.
- At the conceptual level, there appears to be growing acknowledgement in both fields of the complexities of educational change in general and program implementation in particular. Linkers now recognize that their role is not limited to "before adoption" tasks but should include sustained attention to program processes and outcomes. Evaluators now recognize that their role is not limited to measuring student outcomes on stated program objectives but should extend to conducting needs assessments, assisting in program and evaluation planning, and providing technical assistance in program implementation.

A PARTIAL VIEW OF THE CURRENT SITUATION: LINKERS AND EVALUATORS

Our purpose, in this section, is to describe some of the existing relationships between evaluators and linkers. The database for this description comes from two sources. The information about linker projects and linkers was gathered through telephone conversations with linkers who are participating in three federally funded dissemination projects spread over many states. Information about evaluators comes from a national survey of 263 research, development, and evaluation units (Lyon, 1978) instituted by the Center for the Study of Evaluation (CSE).

CSE collected information describing tasks performed by evaluators who work in research, development, and evaluation units in school districts; specifically, data describing the extent to which evaluators are identifying educational goals or objectives, assisting in the selection of instructional programs, assessing the results of educational programs, modifying programs using evaluation results, determining pupil satisfaction with programs, and comparing costs and benefits of alternate instructional programs. In conducting the study, CSE experienced great difficulty in identifying the respondent population of evaluators. There existed no single comprehensive list of school district research, development, and coordination units; nor was there a listing, either by district or by state, of those individuals who were called evaluators or who performed evaluation tasks. The role of evaluator within school districts, especially in middle-sized or smaller districts, is sufficiently diffuse that consistent identification for census purposes is, as yet, impossible.

Similar difficulties existed in defining and identifying linkers. Individuals described by this term often perform many functions which vary by

funding source, project, state, and situation. Some persons called linkers perform only a few of the tasks that usually define the role. By contrast, others who do many of the same tasks are not called linkers. Since there was no formal precedent for locating linkers, we contacted individuals who were designated as linkers within three federally funded dissemination programs.

LINKER SURVEY

The three federal programs employed in our linker survey were the State Capacity Building (SCB) project, the National Diffusion Network (NDN), and the R&D Utilization (R&DU) project.

The State Capacity Building program was funded by the National Institute of Education (NIE) in 1975. Its purpose is to improve educational practice by encouraging SEAs to develop a comprehensive dissemination capacity. This is to be accomplished through the establishment of three components as outlined in the Grants Announcement: 1) a full range of resources including data, documents, products, and technical expertise; 2) methods for linking the client group to the resource base, particularly by interpersonal communication; and 3) leadership and management arrangements to facilitate provision of services to all members of the client group. Through 1977, SCB grants had been awarded to a total of 23 states. Most of these projects perform information searches for material and human resources. Clients are generally serviced by mail or phone. In some projects, one phone call or one referral is the extent of linker contact with an individual school.

Since the intention of our study was to explore the functions of linkers and evaluators, those who operated solely as resource persons (e.g.,

librarians, workers in ERIC Clearinghouses) were eliminated from the sample. Only four projects in the SCB program directly fund individuals who fit our definition of "linker," that is, who do field work at the school level. A linker from each of these projects was contacted.

The R&D Utilization program, created in 1976, is also funded by NIE. This program is intended to help solve educational problems in the schools by providing them with services to aid in the implementation and employment of existing Research and Development (R&D) outcomes. These services include awareness of available resources and linkage of appropriate agencies to deliver these resources to local schools. In addition, each project includes agencies that combine their skills to go beyond information dissemination and provide necessary support to assist adoption activities. Seven projects are funded through this effort.

Each of the seven project directors of the RD&U program were employed in management functions with a staff that included linkers. One linker from each of the seven projects was contacted.

The National Diffusion Network was created in 1974 and is funded by the United States Office of Education (USOE). Its purpose is to facilitate the widespread implementation of successful education practices developed with the support of federal funds. After approval by the Joint Dissemination Review Panel (JDRP), successful education practices are disseminated to educators throughout the country through the use of two types of agents: who jointly perform "linkage:" State Facilitators (SFs) and Developer/Demonstrators (D/Ds). As stated in the Grants Announcement, State Facilitators help educational agencies in their geographic areas to identify and install JDRP-approved programs. D/Ds--the individuals who have developed these JDRP-approved programs--then provide materials and conduct

presentations to acquaint teachers, principals, and district officials with their programs. They also provide training and technical assistance to schools that wish to install a program. In 1977-1978, there were approximately 79 funded D/D programs and 53 State Facilitator projects.

This study sampled only State Facilitators (SFs)--those individuals who have been involved with local schools in one state from the onset of the program-improvement effort. Conversations with State Facilitators revealed that some number of their projects were too young to be included, as yet, in program evaluation activities. These projects were eliminated from the sample. Some SFs work alone. These individuals were further questioned about their activities. In larger NDN projects, the SF may manage a staff of linkers. In such cases, one linker from the project was contacted. In total, ten linkers from the NDN were surveyed.

Each of these three federally funded programs--SCB, R&DU, NDN--includes individuals who can be termed linkers. In two of the projects, SCB and NDN, a linkage system involving interpersonal communication is specifically required by the federal guidelines for the projects. The solicitation document for the R&DU project did not include any reference to linking agents, but these persons have emerged in all seven projects as one of the ways to link schools and supporting agencies.

Linker Sample

The CSE telephone survey concerned with linkers' activities was conducted on a sample of individuals employed in the three federally funded dissemination programs described above. To identify linkers as respondents for our informal telephone survey, all project directors in the SCB and R&DU projects and about one-third of the State Facilitators in the NDN project were contacted by telephone. From these conversations we determined whether

the project included persons that fit our definition of linker, i.e., someone who worked in the field, at the local district or school level, on program improvement activities beyond simply providing information. In addition, to be regarded as a linker for our study, the individual had to be at least partially funded by the federal program. If the project included a linker, we then gathered more information, including data on the size of the project and its interaction with other federal or state dissemination programs. If the project director was the sole representative of the project, as sometimes occurred with the NDN, this person was questioned about his/her activities. If the project director was a manager of a staff, a request was made to speak to a person performing as a linker according to our definition.

We interviewed individuals as follows:

- State Capacity Building Project: 4
- Research and Development Utilization Project: 7
- National Diffusion Network: 10

Findings of Linker Survey

This survey was conducted in order to obtain background information that would give us a profile of linkers and an idea of the extent of their activities relating to evaluation of the programs they help disseminate. In no way was this intended to be a systematic documentation of linker functions, but rather an informal overview of linker work as it relates to evaluation activities. Our questions fell into these categories:

- Linker relationships to evaluators, e.g.,
  - How does the linker see an evaluator fitting into the project, if at all?
  - Does the linker have contact with an evaluator, if any are available?
  - Which tasks does the linker feel should be done by an evaluator?
  - What is the linker's perception of his/her own role in relation to an evaluator's?

- Linker's job characteristics, e.g.,
  - Where is the linker located (state department, intermediate agency, LEA)?
  - Who are the clients (principals, teachers, curriculum coordinators)?
  - What is the mode of contact with clients (phone, visits)?

- Linker's background, e.g.,
  - What was the linker's academic background?
  - What was the linker's previous position--had the linker been involved in similar functions?
  - How much training had he or she received?

- Linker's tasks, e.g.,
  - What are the linker's tasks?
  - Which are done by the linker personally and which does the linker assist the LEA to do?
  - Which tasks commonly grouped under the term "linking" does the linker not perform, and why not?

The results of the linker survey will first be presented by individual program. Comparisons between the three federal dissemination programs will then be discussed. Finally, these findings will be compared with those from the CSE study of 263 district evaluation units.

State Capacity Building Program

We spoke to four linkers from the four projects in this program identified as containing linkers. Two of these individuals were in state departments, one in an intermediate agency, and one in the administration building of a school. Three linkers worked with both districts and individual schools throughout the state; their clients included teachers, coordinators, and administrators. One linker worked exclusively with administrators at the district level. Apart from these differences, the linkers appeared to be similar in several characteristics. They were full-time employees but were only partially funded by the SCB program. They were also engaged in other education or dissemination-related jobs and were not called linkers. All had a potential client population of over 100 schools which they serviced through both phone calls and visits.

Their academic background was diverse. Major areas of specialization included administration, curriculum and instruction, information systems, and secondary education. Some had been employed by the SCB program a few months, others for up to three years. Their formal linker training at conference meetings and workshops focused on such areas as information dissemination and organizational and group processes.

The linkers were usually involved with a school from the time of a needs assessment (or just after) through program planning and implementation. In this sequence of activities, two of the linkers reported functioning mostly in a resource referral capacity, locating needed information; or else as a contact, setting up meetings between school and appropriate experts. The other two linkers took a more active role in actually conducting the tasks.

Once an innovation had been implemented, linker involvement with the school district ranged from none, to some assistance in implementation and outcome evaluation, to some assistance to schools doing their own evaluation and program modification.

Relationship to Evaluators. On one occasion, it was reported that the linker had contacted an evaluator to request assistance for the school, but there appeared to be no direct or continuing interaction between linker and evaluator. The other linkers reported that, if program evaluation was done at all, it was handled by either a district evaluation unit, the state, or the school independently of the linker. Linkers do not seem to be involved with evaluators beyond an initial contact.

Research and Development Utilization Program

Each R&DU project is organized around a specific topic (e.g., reading, vocational education). One linker from each of the seven R&DU projects was

contacted. Each of these linkers is a member of a larger staff located in an intermediate agency or consortium. A given number of clients--either schools or districts--is assigned to each linker, ranging from five schools to 17 districts. Linkers were full-time, year-round employees paid by the R&DU program.

Linkers had been on the R&DU projects for two to three years. Although all had some teaching experience, it varied greatly, ranging from graduate teaching fellowship to department chairmanship at the secondary level. All had received some training in connection with their role as linker, in such areas as problem-solving techniques and group processes.

Due to the projects' organization, all schools affiliated with them are assisted by linkers during start-up activities. Following this, involvement of linkers appears idiosyncratic. Most linkers indicated that they believed it was up to the school to check on its own implementation procedures and to assess its programs. Since most schools had written an evaluation plan into their program plan upon first choosing a program, some form of evaluation of success was usually done.

Relationship to Evaluators. The extent of linkers' relationship with outside evaluators differed. Several linkers often made contact with evaluators for their clients. Others never had any relationship with evaluators, either because there was no evaluator on hand or because the evaluation function was performed by school or district personnel.

National Diffusion Network

We spoke with one linker from each of ten State Facilitator projects. The State Facilitators were housed at all levels of administration, including state departments, intermediate agencies, district offices, and local education agencies (LEAs). Clients of all the linkers consisted of teachers,

principals, and administrators in both districts and individual schools throughout the state. Most Facilitators were full-time, year-round employees. A few were partially funded by other federal or state dissemination projects. State Facilitators had been in their present position from one to four years. Most had some background in teaching. In addition, several also indicated a specialization in other areas such as administration, guidance and counseling, and dissemination.

All linkers spoke of having had some form of training, including workshops at NDN conferences and at the Technical Assistance Brokerage (TAB), the NDN technical assistance subcontractor. The training covered such topics as dissemination and management.

All the linkers seemed to be engaged in similar dissemination-related tasks. They all mailed information to districts in their states and set up awareness conferences in response to expressed program needs. State Facilitators generally did not engage in needs assessment activities, but rather responded to schools after this stage had either been skipped or completed. Once a school had chosen a program, the State Facilitator usually set up contact between the adopter and the Developer/Disseminator of that program, and also arranged the workshops at which D/Ds trained adopters in the use of their programs. At this point in the school improvement process, the activities of the SFs begin to vary. Some kept in close contact with the schools during implementation of the new programs, while others had contact only if and when the school requested additional assistance.

Relationship to Evaluators. While some school program evaluation is conducted in the NDN, very little is done with or by an evaluator. Many of the D/D programs include an evaluation component which is introduced during the initial teacher training. Evaluation of the program is then

often left to the school. A D/D or an SF may or may not be involved. In some instances, a school has access to an evaluator, e.g., from the city district or state. If the program is funded through one of the federal title provisions, a person from the state department may be responsible for the evaluation. An SF sometimes sets up the arrangement between the school and an evaluator, but usually a school establishes its own contact. SFs may not know if a school has any access to or employs an evaluator, since they are not involved with the school at this point. It appears, then, that SF interaction with evaluators is unusual and limited to the setting of contacts for the schools.

Summary of Linker Survey

Project Diversity. The information given us by our 21 respondents reflects great variety among linkers in general job characteristics, background, tasks, and relationships with evaluators. Even where distinctive organizational requirements exist within a program, there are still variations among projects within that program. For example, the R&DU program is set up so that each linker is to work with a specific number of schools or districts. This situation is in contrast with the SCB and NDN programs, in which linkers may work with any number of schools within a state. Yet there is wide variation in the number of schools serviced by individual linkers in the RDU program. Projects within all three programs seem unique, operating in response to factors such as project size, funding level, management system, amount of interaction with other state and federal dissemination programs, and number of clients.

Common Linker Tasks. Regardless of the diversity between individual projects, there are some general observations that can be made. It appears that linkers, whatever their funding source, are performing some or all of

a set of tasks defined by a common vocabulary. They are involved in a sequence that begins with needs assessment--either assisting in its completion or reviewing the results of a school-initiated or state-mandated assessment--and continues through acquisition of information about new programs, planning, training, and installation of the program.

The similarities in the set of linker activities may be expanded by the restricted definition of "linker" used in this survey. By limiting the sample to those individuals who worked with local schools in a capacity other than resource identification, this survey eliminated some persons identified as linkers by project directors (e.g., ERIC Clearinghouse personnel, librarians). Many projects in the SCB program, for example, are primarily engaged in building program information skills throughout the state. Therefore, most tasks in these projects are limited to those of Paisley's "resource finders," and were eliminated from this survey.

Another explanation for the common sequence of tasks may be found by examining federal dissemination policy. It appears that current theories of school improvement support a systematic approach of identifying needs, planning and installing a program to suit these needs, and then evaluating the implementation and impact of the program. These elements must be specified in proposals for funding. Therefore, it is not surprising to find that these same activities are reported by persons who are commissioned to assist in dissemination and school improvement projects. However, commonalities among tasks disappear beyond the program installation stage. Once a school site has installed a program, subsequent linker contact with the school ranges from none to intense involvement in technical assistance or monitoring.

Limited Linker Involvement in Evaluation

Linkers do not usually do evaluation of implementation procedures and program effects. Most agree that it is an activity that should be performed; that it belongs in the sequence of tasks leading to school improvement. Yet few seem to be involved in this activity. The reasons vary. They include:

1. Some projects have only recently been installed in schools. Evaluation is premature.

2. Most linkers do not have the skills, resources, or incentives to conduct evaluations.

3. Some linker staffs are too small and/or must service too many clients. Linkers do not have the time to conduct evaluations.

4. Several linkers said they would help if asked but that they did not really regard evaluation as part of their job. In the NDN projects, for example, many State Facilitators believed that the Developer/Demonstrator was responsible for seeing that implementation and impact were evaluated, using the assessment measures accompanying the innovation.

Linkers do not usually work with evaluators. In all three programs, the relationship of linkers to evaluators appears to be very limited. Most interactions involve a linker making the initial contact with an evaluator on behalf of the school. The evaluator may be from a district office or a state department, or may be an outside consultant. Once the evaluator has been contacted, the linker usually has no further involvement. No linker reported working with an evaluator on any evaluation activity.

For the majority of projects, there was no contact with an evaluator. The reasons given for this include:

1. Lack of evaluators. Regardless of the needs or attitudes of the school and/or linker, evaluators were often not available.

2. Negative attitudes toward evaluators on the part of either linker or school; or the impression that what evaluators can or will do involves only testing.

3. Lack of funding to hire evaluators. Some projects include funding for an evaluation by an evaluator, e.g., NDN projects funded out of Title IV; but most do not have specific funds for this purpose.

4. Evaluation is the responsibility of someone other than an evaluator, e.g., the D/D in the NDN project, the schools in some RDU projects.

In summary, it appears that most linkers are engaged in what Crandall refers to as "front-end" activities, i.e., those that occur before a change or adoption decision. A small number may be involved in, are about to be involved in, or are concerned about "back-end" activities, i.e., those that occur after a change or adoption decision.

DISTRICT EVALUATION UNIT STUDY

CSE's national survey of the approximately 400 school districts that had centralized research, development, and evaluation (RD&E) yielded a return of 263 questionnaires. The survey covered a large number of items, but the findings of interest are those related directly to the evaluation units' activities. The reported activities were sorted into three categories:

1. Needs assessment and program planning. This category included identifying/appraising educational goals or objectives, comparing costs/benefits of alternate instructional programs, and assisting in the selection of instructional programs. While most of the units reported some activity in this area, only 14% of the respondents ranked this group of activities as one of the three most frequently done by the evaluation unit.

2. Implementation. This activity involves ensuring that program implementation conforms to program specifications. This type of activity was ranked in frequency as one, two, or three by only 20% of the evaluation units. Again, most respondents checked this item as an activity carried out some of the time; but it is not a priority activity for most evaluation units.

3. Program assessment. This category includes assessing the results or worth of instructional programs, and assessing student achievement of objectives. These activities were ranked as among the three most frequently done.

In addition, the activities that ranked highest in the developmental area were: development of test materials and development of other evaluation instruments. This is in contrast to lower rankings for such activities as development of instructional programs and adaptation of instructional programs to meet local needs.

Results showed that evaluation units are engaged in a number of different activities. From a list of ten activities, an average of 6.7 were checked by respondents as being performed some of the time. However, rankings of the tasks showed that most evaluation units are focusing on only a few activities. The third category, program assessment, seems to account for most evaluation units' time. The two activities included in this category, assessing the results or worth of instructional programs and assessing student achievement of objectives, were each ranked as their primary activity by over 30% of the evaluation units.

These findings, in conjunction with the rankings of development tasks, indicate that evaluation units are chiefly engaged in program assessment activities.

EVALUATORS AND LINKERS: ELEMENTS OF INTEREST FOR SCHOOL IMPROVEMENT

It is always dangerous to speculate from little knowledge. Our informal survey of twenty-one linkers did not employ a representative sample, nor did we ask our informants a list of structured questions for the purpose of comparing answers across programs. Rather, our conversations were exploratory, aimed at familiarizing ourselves with the world of linkers. Furthermore, investigation of the CSE data concerning the activities of evaluators in evaluation units was made after the data were obtained: we did not participate

in the survey design, which failed to supply information about evaluators' awareness of linkers, of linking activities, or of projects installed in schools or districts as a result of dissemination efforts. Additionally, the two groups of individuals on which we focused our attention may not have given us a complete picture of the relationships between all linkers and all evaluators. Our linkers were external to the school system and were part of the federally funded dissemination efforts. Our evaluators, on the other hand, were internal to the school system and were part of the administrative structure of the district. If we have only a modest amount of information about the relationships or lack of relationship between internal evaluators and external linkers, we have, in this study, no information at all about the relationship between internal evaluators and internal linkers, or external evaluators and external linkers.*

Nonetheless, a few observations are in order. Both our evaluator and our linker respondents report that their largest client groups are teachers and principals. This may be interpreted to mean that both groups appear to focus on the local school level.

The services that linkers and evaluators provide for their clients are quite different. Linkers assist school personnel with discrete changes in their school programs; evaluation activities may or may not be connected with particular programs. Linkers see themselves as primarily involved with dissemination; evaluators, with testing. Yet both can be seen as part of a general school improvement or change process. This process includes needs assessment and program planning at one end, continues through training and program implementation, and then moves toward program assessment.

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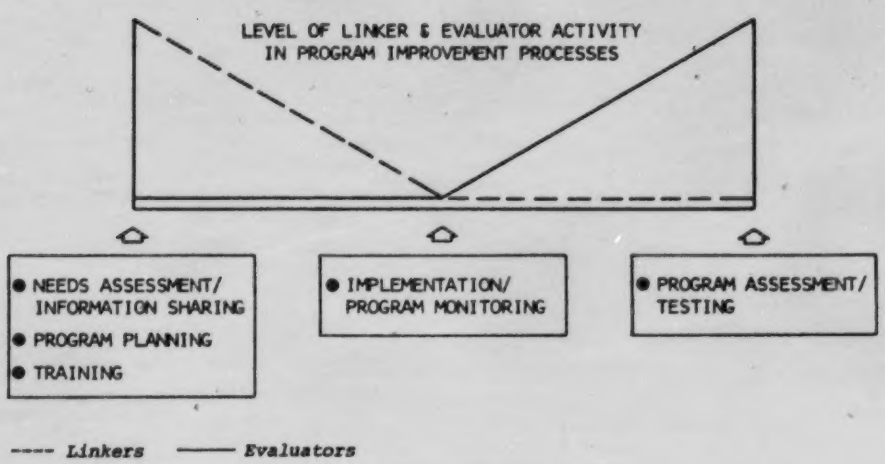
* We are indebted to Paul Hood for this point made in personal correspondence, December 1978.

It appears from our data that most linkers are currently engaged in "front-end" activities, although some are involved in, about to be involved in, or concerned about "back-end" activities. By contrast, district evaluation units appear to be primarily engaged in "back-end" activities, especially testing, with some small amounts of "front-end" activities reported by a sprinkling of units.

The two groups are coming from different ends of the program improvement continuum, as illustrated in the figure below.

LINKERS, EVALUATORS, AND THE PROGRAM IMPROVEMENT CONTINUUM


LEVEL OF LINKER & EVALUATOR ACTIVITY IN PROGRAM IMPROVEMENT PROCESSES
● NEEDS ASSESSMENT/ INFORMATION SHARING
● PROGRAM PLANNING
● TRAINING
● IMPLEMENTATION/ PROGRAM MONITORING
● PROGRAM ASSESSMENT/ TESTING
---- Linkers
—— Evaluators

Evaluators and external linkers seem to share two frustrations: lack of clear-cut and recognized roles in relation to school administrators, and uncertainty about the utility of their work. But these two groups of individuals are different in important ways. Evaluators are specialists with a small repertoire of highly developed technical skills; linkers are generalists with a large repertoire of nontechnical interpersonal and resource-related

skills. Evaluation is a recognized specialization within educational research and doctoral programs in at least 40 universities (Phi Delta Kappa study, 1976); there is, at present, no doctoral program for linkers.

What are the potential relationships that linkers might have with evaluators, especially those who have formative evaluation responsibilities? How might each type of internal relationship affect the frustrations of evaluators and linkers as well as their power to facilitate the processes of educational improvement? One can speculate about alternative relationships on a scale from distant to intimate.

Evaluators and linkers might be strangers to one another. In this relationship, each would relate independently to program administrators. Each would perform his/her job without formal knowledge of the activities or skills possessed by the other. Formal coordination reporting channels would not exist. Project administrative arrangements within many districts and federally funded projects support this nonrelationship.

Evaluators and linkers might be technical consultants for one another. Linkers or administrators would then call on evaluators to provide assistance in particular areas, such as instrument selection or development, evaluation design, data analysis. Evaluators, in turn, might call on linkers to disseminate the results of particular evaluations. Linkers might perform the specific function of helping to translate evaluation data into issues for discussions or recommendations upon which teachers and administrators could act. The relationship here would be intermittent, specific, and task-oriented.

Evaluators and linkers might be counterparts of one another. Since both are concerned with general activities (such as educational planning, implementation, and assessment) and with specific tasks (such as needs assessment, identification and selection of programs, adoption or adaptation of programs,

program implementation monitoring, pupil progress monitoring, teacher and parent satisfactors, and program outcomes), they might well apply their unique skills in a coordinated and ongoing fashion. At a minimum, such a partnership would entail awareness, on the part of each member, of the full range of capabilities of the other. Some administrative arrangements in terms of coordinating communication, reporting lines, budgeting, and scheduling would have to occur. The relationship would be interactive and continuous.

In such a relationship, evaluators and linkers could be regarded as sharing a common set of functions. The particular role title assumed by the person performing those functions would depend on the particular situation. For instance, let us assume that a school, with federal or state money to spend on some form of instructional improvement, organizes itself so as to initiate, plan, carry out, assess, and recycle a variety of curricular, instructional, and organizational changes. The administrator's role is to manage the change process, supported by one or more individuals with a variety of skills. A linker whose first-order skills are in the areas of "resource finder" and "process helper" might draw on those techniques developed within the field of evaluation relating to activities such as needs assessment. Additionally, the linker might ensure that evaluation information about any program considered for adoption or adaptation be carefully examined, and might also insist that an evaluation plan be developed at the same time as the program itself is planned. This would ensure that the resources for acquiring the needed documentation and outcome measures are anticipated; that the requirements of an acceptable evaluation design are met; and that money and time are reserved for both conducting the evaluation and acting upon its recommendations.

On the other hand, an evaluator whose first-order skills included technical expertise in test selection and interpretation might find that his or her contribution to the program improvement process would be enhanced through knowledge of problem-solving techniques, conflict-management techniques, and understandings of group processes, decision-making, and communication.

It is only a short step from this notion, that linkers and evaluators can carry out aspects of one another's job description, to the suggestion that evaluators be trained to function as linkers and linkers as evaluators. The merger of linker and evaluator into a complete change agent is difficult to imaging at this time, since individuals in both occupations seem to be simultaneously overextended and underequipped. Nonetheless, there is, from some quarters, a push to 1) teach evaluation skills to linkers so that they can perform better within their presently defined roles, and 2) sensitize evaluators to the idea that the nontechnical aspects of evaluation are as professionally important as the technical.

A comprehensive school improvement process requires someone with "front-end" skills who can link potential adopters with existing knowledge; and someone with "back-end" skills who can use data to determine how well that knowledge, once implemented, is in fact improving teaching and learning. School improvement is a continuous and interactive sequence that an administrator cannot manage without adequate support. It is clear that such support can be analyzed in terms of functions that trained individuals can fulfill. Whether these functions can be best accomplished by individuals currently identified either as linkers or as evaluators is not yet clear.

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Chapter 7

RESOURCES AND SERVICES IN SUPPORT OF EDUCATIONAL LINKING AGENTS

William Paisley

George H. Grimes

Carol Reisinger

Olga A. Moir

INTRODUCTION

William Paisley

Educational Dissemination Programs

In the past decade, a number of educational dissemination programs have been founded in the United States, typically as cooperative experiments involving federal, state, and intermediate or local educational agencies. In these programs, personnel employed as "linking agents" or "linkers" provide information-based services to teachers, curriculum specialists, principals, and others at the district or building level who are engaged in needs assessment, problem-solving, decision-making, planning and implementation of new programs, program evaluation, and other school improvement processes. Educational dissemination programs differ from earlier educational information centers (e.g., ERIC clearinghouses) in their willingness, capacity, and "entitlement" (a concept to be discussed below) to work with clients in school offices and classrooms, as necessary, throughout the several phases of a school improvement effort (Butler and Paisley, 1978).

Some of the services provided by educational dissemination programs utilizing linking agents are similar to those of teacher centers, instructional materials centers, inservice training programs, school study councils,

professional association activities, and various other programs of assistance to teachers and administrators. Over time, as the experience of the 1970s has shown the most effective features of all such programs converge and become validated strategies for educational improvement. Also over time, in many states, the educational dissemination program located in the state education agency becomes partner with existing successful programs at the state or local level in a consortium that assigns responsibility for different information-based services to different programs. Because of the variety of historical roles played by state education agencies in the organization and control of intermediate service agencies and in local experimentation with information-based services, the originally uniform "1970 model" of an educational dissemination program utilizing linking agents (see Sieber et al., 1972) is evolving into adaptations that not only accommodate but draw greater effectiveness from state-to-state differences.

Structurally, a "typical" educational dissemination program consists of a staff of linking agents, support staff, and management staff. Depending on the emphasis of each program, the functions of support range from conducting literature searches to arranging consultations, product demonstrations, etc. Apart from personnel, a program consists of: a centralized facility or multiple decentralized facilities; resources ranging from product documentation to general educational information; and equipment for computer searches, materials reproduction, audiovisual display, etc.

In contrast to the "typical" educational dissemination program, which employs linking agents more or less full-time, some school systems are experimenting with part-time linking agents who help their colleagues to receive information-based services while spending the greater part of their

working time in teaching or administrative roles. We do not discuss these part-time or "internal" linking agents at the same length as full-time or "external" linking agents, because 1) the novelty of the internal linking role limits our knowledge of the variety of forms it will eventually take, and 2) we assume that internal linking agents' needs for resources and support services are similar to those of external agents.

Linking Roles and Functions

No two educational dissemination programs make use of linking agents in quite the same way. Each host agency, whether at the state or local level, has different historical beliefs and strategies concerning educational improvement. In addition, each source of funds for educational improvement conveys an obligation or priority for different linking functions. The "entitlement" under which a linking agent enters school offices and classrooms is a product of these factors.

Three more or less distinct linking roles have emerged under different entitlements (Butler and Paisley, 1978, pp. 30-31):

1. Resource Finder. At the lowest level of entitlement, a linking agent serves as intermediary between the client organization and knowledge resources. The linking agent may conduct information searches or make interpersonal contacts to find answers to clients' questions. The linking agent "negotiates" clients' questions to make them answerable, but does not undertake an analysis of the client organization to determine if the right questions are being asked. Information is turned over to clients in the form of bibliographies, documents, briefing memos, etc. Only infrequently is the resource finder called upon to make presentations to clients; recommendations for change based on the information go beyond the entitlement of this role.

2. Process Helper. Given some degree of entitlement to become involved with the actual problems of the client organization, the linking agent becomes a process helper. The process in question may be technical (e.g., facilitating problem analysis and decision-making), interpersonal

(e.g., facilitating group interaction and managing conflict), or both. The process helper may be an advocate of a particular approach to problem analysis, group dynamics, etc., but is neutral with respect to the substantive problem or decision.

3. Solution Giver. Given entitlement to represent one "solution" or set of "solutions" to the client organization's problems, the linking agent becomes a solution giver. The auspices under which the solution giver works with a client organization are more important than the auspices of resource finding or process helping. The solution giver is often affiliated with an R&D organization or other product developer whose reputation becomes part of the solution giver's entitlement. Some linking agents in this role act as brokers for a variety of solutions, such as those catalogued in the USOE publication, Educational Programs That Work.

Each of these roles combines several "client-service" functions (e.g., determining clients' needs) and several "system-maintenance" functions (e.g., managing an office, directing support staff, compiling resources). Although the system-maintenance functions of the three roles are similar, the client-service functions differ in the following ways:

1. Resource Finder
   - Monitoring available information
   - Determining clients' needs for information
   - Collecting, organizing, and analyzing information
   - Delivering information to clients

2. Process Helper
   - Determining needs
   - Analyzing problems
   - Planning
   - Organizing clients into working groups
   - Managing conflict
   - Training clients
   - Evaluating

3. Solution Giver
   - Monitoring available solutions
   - Determining clients' needs for solutions
   - Demonstrating solutions to clients
   - Planning for implementation
   - Assisting implementation
   - Evaluating

A linking agent may perform each function himself or herself; may arrange for a staff specialist or consultant to perform it; or may assist clients in performing the function for themselves. Such patterns of service vary from client to client, agent to agent, and program to program. Whether or not a linking agent performs a function personally, the function is said to be part of his or her role if it is included in the "entitlement" of the role. At various levels of personal competence and/or rapport with clients, a linking agent may in addition perform some functions outside his or her role. In some cases, a disparity between prescribed versus actual functions shows the linking agent's adaptiveness in meeting client needs; in others, a disparity signals lack of direction from management or support from other staff.

What Does It Mean To "Support" Linking Agents In Their Roles and Functions

The exiciting role of the linking agent is central to experimental programs. Whether full-time or part-time, whether external or internal to the school system being served, he or she is an important catalyst in the interaction between educational personnel and knowledge resources. However, linking agents have often been sent to their field assignments with less support of various kinds than their "entitlements" require. The labor of linking agents is the single most costly resource of educational dissemination programs, and lack of support leads to ineffective utilization of this labor. Lack of support also leads to stresses in the linking role, which diminish its rewards and sometimes cause good agents to give up the work altogether.

The various kinds of support needed by linking agents can be derived simply by prefixing "support in" to each function listed under the three

primary linking roles earlier in this section. For example, linking agents need support in analyzing information, planning, assisting implementation, evaluating, etc.

However, this derivation of support needs is misleading in two respects. First, the linking agent may not require delegated support in performing functions so much as training to perform them himself or herself. Whereas "support in collecting information" probably does imply delegating the function to support staff, "support in determining clients' needs for information" probably implies the linking agent's acquiring competence to perform the function. In general, functions that are not integral to the linking agent's relationship with a client may be supported through delegation, while integral functions may be supported by training that enables the agent to perform them.

Second, the major part of a linking agent's time is spent with clients or on client service preparation. But linking agents, like other staff of any dissemination program, must spend some time building and maintaining the program itself. "System maintenance" functions usually occupy most of a program manager's time, about half of the time of support staff, and a lesser but significant part of a linking agent's time. For example, in a decentralized program with agents' offices located throughout a state, agents may be responsible for local office management. Effective linking agents are not always effective office managers, and vice versa. Agents' system maintenance functions, which do not appear in the previous list of functions, particularly need to be supported if agents are to be effective in the field.

So, our device of deriving support classifications from linker functions does not effectively serve our purpose; we need a simpler and more

accurate mechanism for classifying and discussing linker support needs. The alternative approach we have chosen is to group support needs by the avenues used to supply the support: training support, knowledge support, organizational support, and psychological support.

One means of support is training. During the present period of transition from experimental to institutionalized programs, linking agents have few opportunities to obtain preservice training either from universities or the host agencies of the programs. Instead, linking agents whose backgrounds may be quite diverse receive inservice training in the host agency or in a few regional and national training workshops. These ad hoc training experiences have been reasonably successful thus far, because of the high caliber of agents employed by the programs; but no manager or trainer would contend that such limited training should substitute for longer preservice training in schools of education, institutes for social research, etc. However, the introduction of preservice training will not displace inservice training, because agents need to be kept aware of the constant changes in the substance and process of educational dissemination work.

A second means of support concerns a linking agent's knowledge services. Some agents are primarily knowledge brokers, and all agents, even in dissemination programs that emphasize technical assistance rather than information, must be able to respond to clients' information requests. No agent is expected to be a walking encyclopedia of knowledge concerning school improvement; but all are expected to identify, acquire, sometimes transform, and deliver information as needed. Most dissemination programs have some support staff responsible for fact finding and literature searching. These staff members specialize in knowing about information sources and procedures for using them. Recently, additional specialists at regional exchanges have begun to provide knowledge support above the program level.

A third means of support, "organizational support," extends when necessary beyond the skill and/or entitlement of the linking agent. In one or more phases of any school improvement effort, services required by clients will exceed the process skills of a linking agent with average training and experience. One linking agent may need support in assessment and evaluation services, another in facilitating cooperative action among individuals in the client group, or assisting the implementation of a new practice, etc. These examples of organizational support relate to services within an agent's entitlement but beyond his or her skills. Such support can be displaced by training an agent in new skills, without changing his or her entitlement. An optimum balance between process support and the agent's own skills may follow the "50-90 rule" of information science (i.e., 50% of a knowledge resource usually suffices for 90% of the demands placed upon it). There is consensus among dissemination programs that linking agents should have some process skills, but each year of experience tempers our belief that a linking agent can be a process virtuoso. An agent may possess that 50% of all process skills that suffice for 90% of process services required; but a broad range of staff specialists and external consultants may be needed to support the last 10%.

Sometimes the work that needs to be done with a client group exceeds a linking agent's entitlement. For instance, it may be desirable to bring clients together in working groups across personnel categories or organizational boundaries. It may be desirable to secure released time for demonstrations or training, or to obtain a school board's authorization to introduce experimental materials in some schools. These and other negotiations with districts and schools may fall outside a linking agent's entitlement. In such cases process support may entail assistance in the negotiations

from the program manager or someone else with the requisite entitlement in the education agency.

Finally, linking agents, like the rest of us, need psychological support in their work. Reward for effort should extend beyond the moderate salary and perquisites of the linking agent position. Also, in these early years of educational dissemination activity, linking agents have been too comprehensively chartered to "go out and improve the schools." Reasonable limits have not been set for the range of knowledge and skills that a linking agent should feel obligated to acquire, for the amount of effort that makes up a "day's work," or for the number and/or types of school improvement outcomes that the agent should expect to see. There are few standards by which a linking agent can judge his or her performance.

TRAINING SUPPORT

George Grimes

Most linkers are grown on the vine of local circumstances rather than nurtured in the hothouse of formal linker training programs, and may well "require substantial re-education, touching on cognitive and affective areas in addition to behavioral skill development" (Crandall, 1977, p. 191). Among these areas and skills, Crandall identifies nine technical skill clusters of linkers (p. 256):

- Problem-Solving
- Communications
- Resource Utilization
- Planning
- Process Helping
- Implementation
- Content/Subject Matter
- Evaluation/Documentation
- Survival

In a paper that provided major ideational input to the Belmont Conference, Butler and Paisley (1978) see the major linkage roles as:

- Process Helper
- Resource Finder
- Solution Giver

Butler and Paisley also indicate, in an analysis of past and present experience in linkage programs, that an important aspect of the linking role is "the intraorganizational versus extra-organizational focus of activity,

or, more simply, whether linking agents are internal or external to their client organizations" (p. 27).

Butler and Paisley point out that most dissemination programs originate on an ad hoc, temporary basis, and employ external linking agents who must work without a systematic and detailed knowledge of the clients' organizational situations. Accordingly, the success of external linking agents depends on factors difficult to control such as: whether or not the agent can establish contact with the right individuals within the client organization, whether the context permits open communications, and whether the linking agent has enough flexibility to enter the problem frameworks of several client organizations simultaneously.

The internal linking agent brings another set of factors to the client contact. He or she is likely to be knowledgeable about the organization, communicative and other-centered, but less of a crusader than the external agent.

The major factor that external and internal linking agents have in common is the "boundary spanning" function: "They bring into an organization, or into a unit within an organization, knowledge and skills that the organization or unit needs...but lacks" (p. 28). Boundary spanning is emerging as a particular focus of external and internal linkage. Culbertson (1977b, p. 299) has listed linker understandings, attitudes, and skills (and therefore training needs) related to boundary spanning:

- Understandings
  - The nature of complex organizations
  - Organizational dependency and interdependency
  - Organization-environment relationships
  - Inter-organization communication
  - Types and attributes of relevant agencies
  - Organizational contact and entry
  - Problems of boundary spanning
  - Tactics of boundary spanning

- Attitudes
  - Openness to ideas
  - Tolerance for diversity
  - Acceptance of uncertainty
  - Positive perspectives on conflict
  - Commitment to a search for alternatives

- Skills
  - Selecting the organization to be spanned
  - Gaining entry and acceptance
  - Establishing trust relationships
  - Clarifying and negotiating organizational and individual roles
  - Achieving collaborative endeavors
  - Managing the "mutual adaptation" process
  - Handling critical aspects of interdependence
  - Coping with divided loyaltiles
  - Dealing with conflict

The schema provided in Table 1 indicates the different applications of learnings by internal and external linkers with regard to boundary spanning.

TABLE 1

DIFFERENT APPLICATIONS OF LEARNINGS BY INTERNAL AND EXTERNAL LINKERS

INTERNAL LINKERS	EXTERNAL LINKERS
1. Because internal linkers worked in more politicized environments, they made greater use of "normative re-educative" strategies of change than did external linkers.	1. External linkers whose chief tools were knowledge-based products and services made greater use of the "empirical-rational" approach to change than did internal linkers.
2. Most internal linkers found the problem-solving model of change more meaningful than other models because it enabled them to address constraints and opportunities on their own situations.	2. External linkers valued linkage and social interaction models of change because they, in contrast to internal linkers, worked in various settings and had opportunities to see the impact of knowledge diffusion processes in different school systems.
3. Internal linkers needed sources of information and search strategies which could help locate products or services pertinent to specific improvement objectives.	3. External linkers needed to be familiar with a wide array of knowledge-based products and services so that they could respond to information requests related to varied improvement objectives.
4. Internal linkers used boundary-spanning skills to obtain relevant human or knowledge-based resources from organizations external to school systems.	4. External linkers applied boundary-spanning skills to provide information and services to diverse organizations engaged engaged in improvement activities.
5. Since internal linkers brought commitment to specific improvement objectives and an intimate understanding of the change variables in local situations, they needed a general knowledge of resources external to the school system.	5. Since external linkers brought to bear a wide range of information, resources, and improvement activities, they needed clinical knowledge about key variables affecting educational improvement in specific systems.
6. Internal linkers had special needs for knowledge and skill in goal setting because of their key legitimation roles.	6. External linkers needed knowledge and skill for use in bringing to bear a wide range of means to achieve goals.
7. Internal linkers needed greater knowledge about the types and attributes of agencies which could provide information on knowledge-based products and services.	7. External linkers needed greater knowledge of the types and attributes of agencies within which educational improvement activities take place.
8. Internal linkers needed greater understanding of information about the products emanating from knowledge uses so that they could apply them in improvement activities.	8. External linkers needed a greater understanding of the processes used to create knowledge-based products and systems.

For distinctions between the "normative re-educative" and the "empirical-rational" see Robert Chin and Keenth Benne, "General Strategies for Affecting Change Within Human Systems," in the Planning of Change. New York: Holt, Rhinehart, & Winston, 1960, pp. 32-59.

Source: Culbertson, 1977, p. 302

Regarding training support for linkers, there is a shortage of genuinely qualified linkage trainers; it therefore seems infeasible to train full-time and part-time linkage agents separately. Most part-time linkers, therefore, will continue to work in their internal professional roles and need be trained in linkage functions only. External and internal linkers who are full-time in the linkage role, however, need training in roles as well as functions. Diagrammatically, these two training streams appear as indicated in Figure 1.

FIGURE 1

TRAINING FOR LINKING AS A ROLE AND/OR A FUNCTION

Training for Role and Functions
Training for Functions only
POOL OF POTENTIAL FULL-TIME LINKING AGENTS (nominally full-time only in this role)
POOL OF POTENTIAL PART-TIME LINKING AGENTS (nominally full-time in teaching, administration)
ENTRY QUALIFICATIONS FOR ROLE AND FUNCTIONS
ENTRY QUALIFICATIONS FOR FUNCTIONS ONLY
TRAINING IN LINKING FUNCTIONS: PARALLEL CONTENT AND MODE
TRAINING IN NON-LINKING FUNCTIONS REQUIRED BY LINKING ROLE
INTEGRATION OF LINKING FUNCTIONS IN OTHER FULL-TIME ROLE
INTEGRATION OF LINKING AND NON-LINKING FUNCTIONS IN LINKING ROLE
PRESENT EXTERNAL LINKING AGENT AND FUTURE INTERNAL LINKING AGENT
INTERIM INTERNAL LINKING AGENT

Source: Butler and Paisley, 1978, p.40

REPRESENTATIVE TRAINING PROGRAMS

Examples of three recent training programs may shed more light on the nature of training support. These examples (drawn from various types and levels of educational agencies) are illustrative and by no means exhaustive.

Project VALUE

Project VALUE (Validated Activities for Learners' Use in Education) is a supplementary center operated by a regional service agency within the Michigan Adoption Program of the Michigan Department of Education. Project VALUE provides dissemination of validated state and National Diffusion Network programs to educators in Wayne County, Michigan, through the Wayne County Intermediate School District. Wayne County is the third largest county in the country and includes the City of Detroit.

Project VALUE has provided linker training for its own Intermediate School District consultant staff (external linkers), as well as for internal linkers within its 36 constituent school districts. This training was also provided to other intermediate school district personnel statewide and to State Department of Education staff during the first of the two years that training took place.

During the first year of training, the topics covered were:

- Needs Assessment
- Knowledge Utilization
- Dissemination/Diffusion

Workshops addressed these questions: What needs exist? What are the available solutions? Once an appropriate solution is identified, how is it successfully adopted or adapted?

At the start of the second year, the linkers internal to local school districts were provided with a list of potential workshop topics and were asked to add additional items, prior to prioritization. The first 12 topics indicated below were suggested by Project VALUE. Two additional workshops were suggested by linkers. (Those workshops based on linkers' prioritization are starred.)

*• Needs Assessment and Problem Identification
• Question Negotiation
*• Assessing Community and School Climate
• Investigating Problem Solution Alternatives
• Identification and Analysis of Successful Programs and Practices
• Implementing Solutions to Needs
• Problem Solving
*• Interpersonal Communications
• Group Process
*• Staff Development and Inservice Training Models
• Program Management
• Evaluation
*• Conflict Resolution and Crisis Prevention
*• School/Community Involvement in the Decision Making Process

Project VALUE also conducted a statewide Workshop on Linkage. A survey carried out among participants, who represented a wide range of external linkage roles, indicated they would like future workshops (in rank order) to include the topics of:

1. School and Community Climate
2. Leadership/Administrative Style
3. Problem-Solving

4. Needs Assessment/Problem Identification
5. Conflict Management and Resolution
6. Dissemination/Diffusion
7. Communication

Illinois Consulting/Linkage Skills Awareness Program

The Illinois Office of Education is heavily involved in an ongoing change program employing regional Program Service Teams. Each Service Team is staffed by 15-20 consultants who provide services to local education agencies in a particular part of the state. The role of the team is to help clients identify their needs and the resources for responding to those needs.

Many of the Program Service Team consultants have been cast in a new generalist linker role quite different from their previous responsibilities in specific curricular areas. The Illinois Dissemination Resources (Capacity Building) Network has general responsibility for the orientation and training of these consultants in their new broader linkage roles. As part of this activity, a Consulting/Linkage Skills Awareness Workshop was held to identify those areas where consultants saw a need for training. The week-long workshop included large-group "stage setting" sessions, as well as small-group "sampling" sessions on various skill clusters. The skill clusters, in rank order of training need, according to participants after sampling, were (Koenig and Manis, 1978, p.7):

1. Conflict Management/Utilization
2. Power/Influence
3. Problem-Solving
4. Resource Utilization

5. Entry/Intervention
6. Communication
7. Group Facilitation
8. Diagnostic Skills
9. Evaluation Skills
10. Design and Planning

The initial Skills Awareness Workshop laid the foundation for three subsequent training sessions in consulting/linkage skills provided by a core group of Illinois Office of Education staff, themselves trained by Dr. Louis Rubin of the University of Illinois. Seven staff members were identified to train in Phase I, which dealt with entry, negotiation, and problem identification. Six staff provided training in Phase II activities, covering problem-solving, conflict management/utilization, and power/influence. Phase III was handled by an additional six staff members, and dealt with implementation, evaluation, and diffusion and dissemination. The trainers used a variety of approaches to convey key concepts and skills to the group. A follow-up seminar took place, featuring national speakers on dissemination and diffusion and focusing on specific content and skills identified by staff (Witkowski, et al., 1978).

Florida Linkage System Training Program

The Florida Linkage System Training Program, conducted by the Diffusion Training Unit of the Florida Research and Development Utilization Project, has as its objective "training to orient a school to problem solving through the use of Research and Development" (Florida R&D Utilization Project, 1978). A set of 25 modules (an orientation module plus 24 skill modules) has been developed to: 1) introduce school personnel to methods and resources for

school problem-solving and staff development; and 2) suggest the use of certain skills, such as communication techniques, problem analysis, decisionmaking, and goal identification. The skill modules are listed in Table 2.

Each module is approximately one and one half hours long, and is meant to be sequenced with others. A "Do-Look-Learn" strategy is employed, whereas participants deal with a situation that focuses on various activities, moves to self-examination of the activities undertaken, and proceeds to learning absorption through linking of the activities to the "back-home" situation.

Comparison of Programs

A comparison of the three previoius training programs with Crandall's technical skill clusters (Table 2) indicates that while there is substantial coincidence between the Project VALUE, Illinois and Florida programs, there are also differences.

Project VALUE's array of training workshops reflects the strong orientation of the Project to internal linkers, who by nature of their prime job responsibilities are usually skilled in the areas of planning, process helping, and evaluation. However, the day-to-day realities faced by internal linkers are such that they indicate interest in topics such as conflict resolution, community and school climate, and leadership style.

The Illinois set of workshop topics follows the Crandall schema quite fully except in the area of implementation. Categories like design and planning, group facilitation, conflict management, and power and influence obviously relate to implementation, but, seem to fit better under other aspects of the Crandall grid.

TABLE 2

TRAINING WORKSHOP TOPICS

CRANDALL SKILL CLUSTERS	VALUE PROJECT WORKSHOPS	ILLINOIS WORKSHOPS	FLORIDA MODULES
Problem Solving	Needs Assessment	Diagnostic Skills Problem Solving	Problem Solving Prioritization of Goals Defining the Problem Problem Solving (RUPS)
Communications	Dissemination/ Diffusion Interpersonal Communications	Communications	School As a Social System Communication Skills Feelings and Perceptions Feedback Concepts and Skills
Resource Utilization	Knowledge Utilization	Resource Utilization	Decisions Based on Data
Planning		Design and Planning	Force Field Analysis Developing an Action Plan Exploration of Alternatives Linking to Revise Plans Contingency Planning
Process Helping		Entry/Intervention Groups Facilitation	Management Theory and Consensus Facilitating Linking Skills Individual Strengths in Groups Principal Training Organizing a Linkage Subsystem Linker Training
Implementation	Staff Development Models		Matching the Solution to the Problem Planning and Evaluating for Evaluation Getting the Facilitator Ready for the Solution
Content/Subject Matter			
Evaluation/ Documentation		Evaluation Skills	Reporting and Assessing Processes and Results
Survival	Conflict Resolution	Conflict Management	
	Community and School Climate		
	Leadership Style		

The Florida Linkage System Training Program uses a modular approach and, therefore, provides a much finer grained selection of workshop topics. All of the topics fit with relative ease into the Crandall schema.

As linkage is basically a process, none of the three programs dealt with academic content and subject matter. It must be assumed, however, that many of those "linked" are subject matter specialists.

LINKER TRAINING SUPPORT

The Northwest Regional Educational Laboratory has provided major assistance in the creation of the Illinois and Florida programs (see above), supporting the design and development of linker training programs for Regional Information Exchanges and State Departments of Education. Similar assistance has been provided the State Departments of Education in Delaware, Georgia, and Idaho, the Midwest Regional Information Exchange at CEMREL in St. Louis, and the Northwest Reading Consortium, among others.

In helping to design training in these situations, the Northwest Laboratory staff provides a systematic procedure, within a consulting framework, which:

- Takes the organizational context into consideration.
- Involves the trainee in developing statements of assumptions and intentions.
- Provides the trainee an opportunity to assess and diagnose, develop microdesigns, and hypothesize outcomes.
- Provides the trainee an opportunity for organizing, documenting, and evaluating linking efforts.

This entire process employs staff modeling within a problem-solving framework (Pino and Emery, 1977). The Northwest Regional Educational Laboratory,

as well as the other linker training programs across the nation, are prime resources for those about to undertake linker training activities.

THE FUTURE

Training in a core of linkage skills is presently available at some locations. In general, most of the skills included in previously delineated training programs can be subsumed within Crandall's list of skill clusters. The major distinction among the skills seems to be external/internal, with internal linkers requiring more attention to survival skills such as conflict resolution, school/community involvement in decision making, and power and influence. Several carefully developed linker training programs now exist within agencies whose missions include linkage as a major strategy. It is anticipated that programs of this type will grow in number and will deal increasingly with the concepts of the linkage team and linkage agency.

KNOWLEDGE SUPPORT FOR LINKING AGENTS

Carol Reisinger

TYPES OF KNOWLEDGE NEEDED

Linking agents have as one of their primary functions the transmission and use of knowledge. A foundation of knowledge must be in place before the linking agent can perform his/her role. A knowledge support system should provide the linking agent with access to research data and to information on current practices, programs and activities, human resources, sources of funding, and laws affecting educational practice (DAG, 1977).

Research

Information based on research is the substance of knowledge support. Reports on basic and applied research are available from a variety of sources. It is important that these sources have systematic and formal ties to the linking agent's knowledge support base. Educational associations, higher education institutions, federal, state, and local education agencies, commercial publishing companies, and private foundations all provide basic or applied research. The linking agent must be able to pull from this complex mass of information the specific pieces of research that will be relevant to the user and must collect and transform basic research into practical forms.

Current Programs, Practices, and Activities

A second critical knowledge area for linker and client use is that of exemplary programs and practices. Written research, while imperative for change, cannot demonstrate for the user what actually happens when its

results are implemented. Educators, especially administrators, are unlikely to begin programs unless they have an example to view. Crandall (1977, p. 198) has indicated that "the bulk of their curriculum is shaped by the consideration and use of tangible resources (programs and products) as opposed to intangible resources (research knowledge and other information)." Therefore, linking agents need to have a variety of ready examples for their clients to view as alternatives to existing programs and products.

Formal programs and practices, such as those of the National Diffusion Network and state and regional Title IV and Title I networks, are available for use by linking agents. The agent knows that these programs have been evaluated and that data have been collected on them that will aid clients in deciding whether to use them. They are designed for adaptation/adoption, so that linking agents have available materials and consultants with which to facilitate usage.

The most difficult type of programs to identify and describe are those developed locally. As Crandall (p. 200) indicates, "locally developed programs are created in response to idiosyncratic local needs. One serious shortcoming of most of these programs...appears to be the absence of a meaningful evaluation and documentation effort." One major effort of a knowledge support system should be to collect and document information on locally developed programs.

In addition to locally developed programs designed by educators, there is a vast array of local programs, products, and knowledge centers that may be useful accessories to school activities. Museums, zoos, bakeries, farms, etc., may all have their places in a curriculum. Many times, these community programs are overlooked as knowledge resources because there is no means of

documenting their usefulness. A knowledge support system must include access to such programs, because linking agents should have all forms of knowledge conveyance at their disposal.

Human Resources

The human resource is a significant one. Crandall (p. 247) states that "the linking agent would do well to either develop or gain access to some bank of human resources." For a variety of reasons to be discussed later in this paper, it is essential that a bank of human resources be made available to linking agents through their support system.

Funding Sources

Finance must be a top school district priority in these times of declining enrollments and Proposition Thirteens. A linking agent must have information that will aid clients in finding new funding sources. Federal, state, and private funds are available, but the complexity of locating and procuring them often impedes their use.

Policies and Laws

School laws and legal interpretations of those laws are of primary importance to schools. Both the state and federal governments promulgate laws that determine the method of operation of schools. Curriculum as well as administration is often determined by such laws. Linking agents functioning in the roles of process helper or solution giver must do so within the legal framework set down by government--local, state, and federal. A support system that can easily provide information on school laws and policies is a tremendous asset to the linking agent.

REASONS FOR SUPPORT

Knowledge support for linking agents is necessitated by the needs of two knowledge users: the client and the linking agent. Client use of knowledge is discussed in various other articles (e.g., Culbertson, 1977a; Havelock, 1969); therefore, this paper will focus on knowledge support for linking agents.

One major reason for linking agent support is that there are so few linkers. The "short-term need for personnel-multiplying strategies which can attack the problem of a present shortage of linking agents" (Rutler and Paisley, 1978, p. 39) can be met, in part, by a knowledge support system. The knowledge support system can provide assistance for the following functions.

Identification of Resources

The support system can provide an organized method of identifying and collecting resources. Some banks of information have already been gathered and put into a systematized arrangement (e.g., ERIC and its counterparts in other systems). In addition, information on resource agencies and their products are collected by support staff. In this manner, duplication of effort can be eliminated. Each agency has at its disposal certain banks of information from which the knowledge support system can draw. By coordinating efforts, the various knowledge support agencies can fill in their own resource gaps. The Resource and Referral Service at Ohio State University collects information on organizations interested in particular subjects (e.g., competency based testing). By coordinating with them, the local knowledge support system can save time and effort.

Identifying human resources is a monumental job. "The maintenance of such a file is an almost overwhelming task, and initially linking agents will probably rely on their personal contacts. But as one's clientele expands, it becomes necessary to draw upon a larger and larger pool of human talent to supplement one's own resources" (Crandall, p. 247). The linker's knowledge support system can identify consultants. This not only saves the linking agent's time, but also expands the consultant banks to include those of others.

A vast reservoir of commercial products are available. Although linking agents cannot get involved in "selling" a particular product, they must be knowledgeable enough to help clients narrow the field of selection. Because of the great number of products, linking agents require aid in collecting and analyzing commercially produced materials. The knowledge support system might actually possess samples, but more significantly, its staff can locate other places where products are being used. Research on methods of selection of materials, Educational Products Information Exchange (EPIE) studies, and other findings can also be made available through the support system.

Coordination of Resources

After resources have been identified, a system of coordination needs to be developed; the knowledge support system staff can develope and maintain such an organized system of retrieval. Files designed for easy access to information must be established. It is important that the linker be able to readily locate a variety of resources.

Information Transformation

"Knowledge sought by the practitioner often is not the same as that which can be provided by the researchers. 'Transformations' of existing

knowledge into usable resources must be provided" (IPOD, 1976, p. 37). A knowledge support system can perform this function. In fact, Butler and Paisley indicate that indeed "transformation of the knowledge base should be a support function. The linking agent should not have to transform and package a new subset of the knowledge base for each client."

There are dangers inherent in these transformations, however. One is that "clients may interpret the selection as censoring" (IPOD, p. 37). This danger presents implications for both the linking agent and the staff of the knowledge support system.

For example, linking agents must clearly and precisely interpret their clients' needs, and analyze the resources with an eye to those needs. If the support system is, in fact, going to analyze the resources, linking agents have to clearly and precisely communicate clients' needs to the support system.

In addition, analysis and targeting of resources in the proper format to suit specific client needs is essential. "The mere provision of information resources and materials constitutes a poor dissemination strategy, especially if the objective is utilization" (Emrick and Peterson, 1978, p. 41). Linking agents must determine whether a material: 1) is of high quality; 2) is appropriate for a specific client group; 3) addresses the needs identified by the client; and 4) is in the most useful format. The knowledge support system can ensure successful use of materials by performing this analysis of resources to be disseminated.

Anticipating Resource Needs

Linking agents respond to identified needs, but they should also anticipate the needs of their clients. For this reason, linking agents must keep abreast of local, regional, state, and national trends. Information

on these trends is obtained not only through print material, but through on-the-spot data collection, and is extremely varied (including statistics, data concerning legislation, policies, regulations, and educational directions, etc.). Matters are further complicated by the fact that these data are not collected by one group only, nor are they to be found in one format. A knowledge support system provides a means for collecting and coordinating the data in usable form.

The most valuable way the network staff can keep linking agents current on educational trends is by assessing the information requests that come in. In this manner, local, regional, and state priorities can be recognized. A second method of viewing educational trends is to coordinate resource retrieval with school priorities identified through a state or local process. A third technique for anticipating needs is to examine current research in journals, at educational labs, and in newsletters.

Because the support system is the recipient of resources and information from a variety of sources, a judgement must be made as to what empahsis is being placed on any given educational area. For example, if there are a great number of Title IV projects on energy education in the state file, it is reasonable to assume that some Title IV priorities center around energy education.

Professional interest groups also indicate areas of priority. Groups such as a state council for the arts may wish to identify exemplary arts in general education programs. By coordinating with these efforts, the support system can not only avoid duplication but also can aid the linking agents in keeping constantly aware of emphasis being given by professional interest groups.

Facilitating Development

Knowledge support systems are not creator developer systems. They can, however, facilitate creation. Because the information network is the link between the resources that exist and the resources demanded, it can recognize areas of resource gap. This is a vital service provided for linking agents, fulfilling a two-fold purpose. First, it enables linking agents to avoid promising what cannot be delivered, because it makes them aware that a specific educational area has few resources; and hence they will not spend valuable time looking for resources that do not exist. Second, the knowledge support system facilitates the development of the missing resources. It provides information on deficient educational resources to developmental agencies; priorities for development are then set in areas where resources are needed.

Multiplying Personnel

The personnel multiplier is a major support for linking agents. "If linking agents were provided with knowledge transformation products and communication multipliers, they would not be required to spend much of their time...locating and assembling resources for clients. The time saved by each linking agent could be used to perform additional functions and/or to contact additional clients" (Butler and Paisley, p. 38). A knowledge support system enables linking agents to spend far less time with far greater results.

Professional Development

It should be emphasized that knowledge support is not exclusively client-centered. It also provides a foundation for the linker's professional development. At the very least, knowledge support constitutes a

professional library; but it also promotes self-development. Knowledge support consists of the latest in research and practical strategies regarding linking agent roles and skills for self-directed professional growth. Perhaps this area of support is the most significant of all, since improving linking agents' skills improves the service they furnish. By enabling linking agents to provide quantity and quality resources in shorter periods of time, and by giving them a means for self-directed professional growth, the knowledge support system aids them in increasing their credibility.

HOW KNOWLEDGE SUPPORT IS PROVIDED

Knowledge support is presently provided in different ways by a variety of systems.

Centralized System

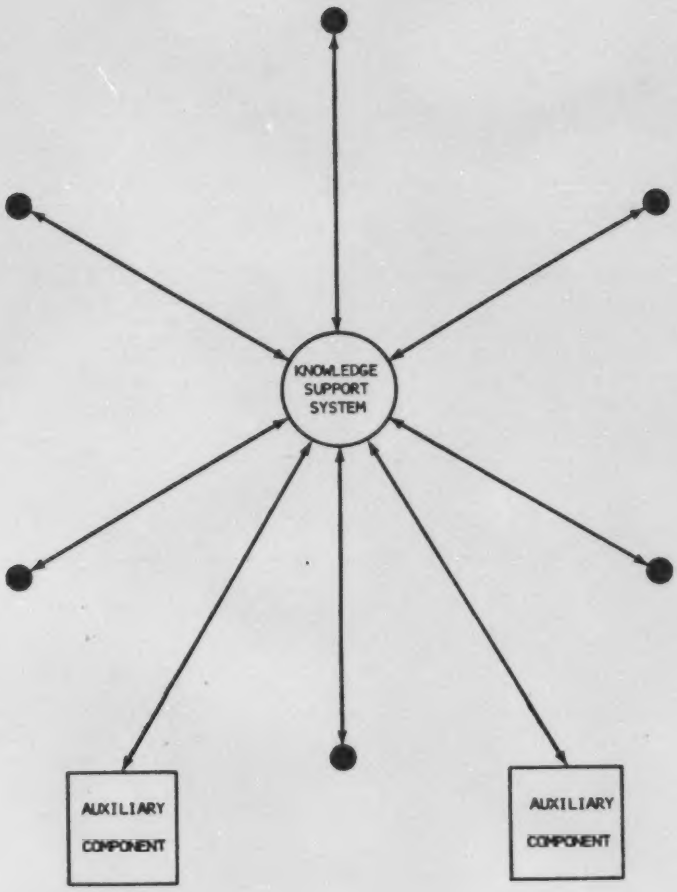
A centralized system (Figure 2, p. 151) is designed to perform all knowledge support functions through one central staff. Such a system has access to data bases, resources, and files, and coordinates with other resources such as the Regional Exchanges and the Resource and Referral Service, which serve as auxiliary components of the central knowledge support system. Linking agents supported by this type of system need only call the staff and make requests.

Decentralized System

A decentralized system (Figure 3, p. 152) has several resource bases or knowledge support systems located throughout the linkage area. Linking agents may be affiliated with particular regions. The system assists its

FIGURE 2

CENTRALIZED SYSTEM

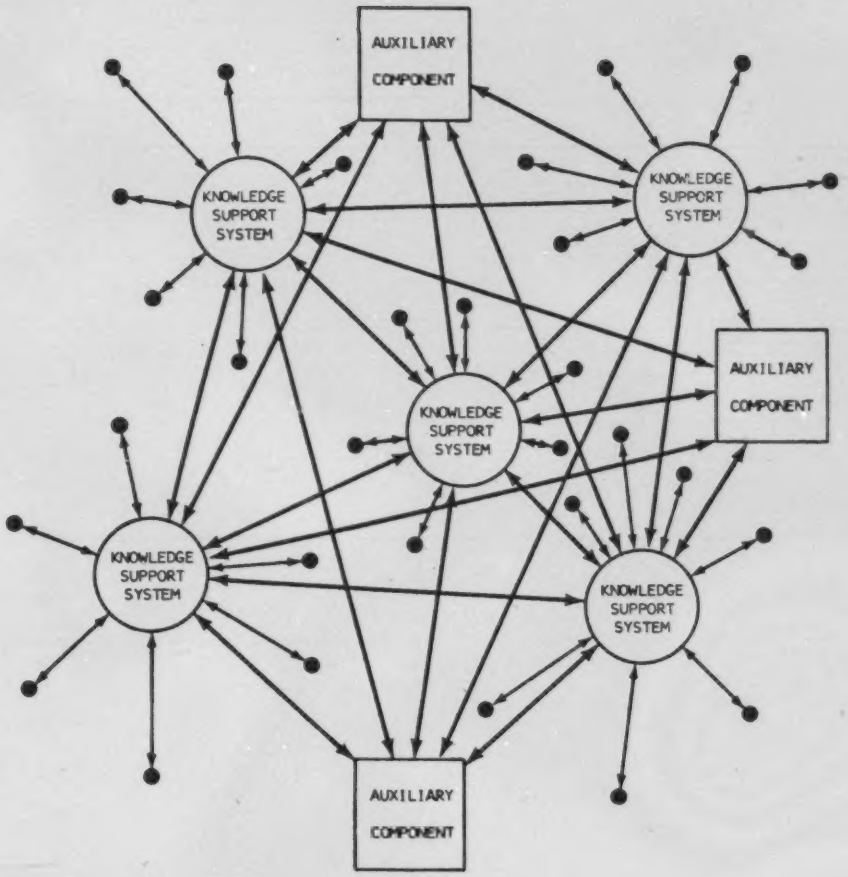


● *Linking Agent*

Auxiliary Components include: State Libraries, Educational Laboratories, Regional Exchanges, etc.

FIGURE 3

DECENTRALIZED SYSTEM



● *Linking Agents*

Auxiliary Components include: State Libraries, Educational Laboratories, Regional Exchanges, etc.

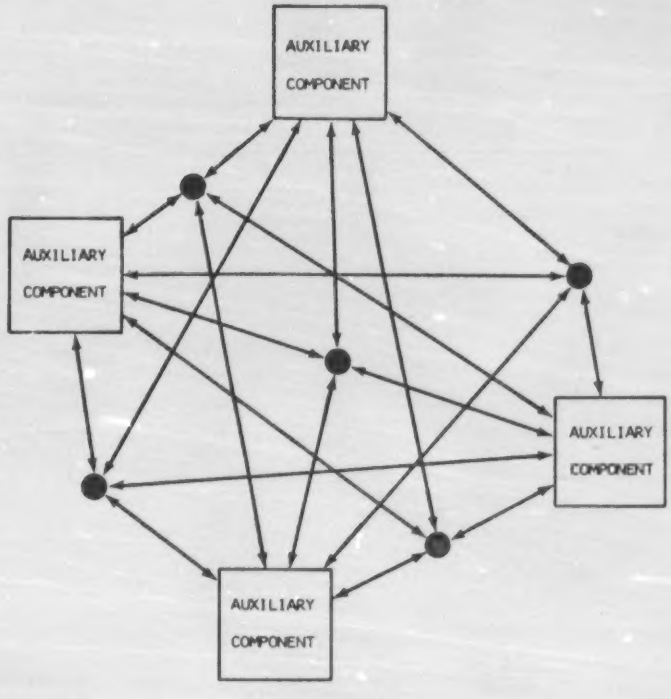
agents using its own resources and/or coordinating with outside agencies or auxiliary components (e.g., state libraries) and knowledge support systems in other regions.

Scattered

A scattered knowledge support system (Figure 4) is one in which the linking agent is provided with knowledge resources by various auxiliary components organized in several patterns. While such systems do provide support, it is more time-consuming for linking agents to retrieve resources and to coordinate support through a variety of agencies.

FIGURE 4

SCATTERED SYSTEM



FUTURE KNOWLEDGE SUPPORT

In the immediate future, knowledge support of linking agents will probably continue in much the same vein. Since many areas are just now beginning to use linking agents, knowledge support of those agents will probably follow previously developed patterns.

There are, however, some evolving patterns to consider. New approaches to linkage based on a new focus for change will be a major influence in the design of knowledge support systems for linking agents.

Lavin and Sanders (Chapter 4) and Mojkowski (Chapter 5) have emphasized the need for a "bottom up" approach based on the needs of practitioners, needs which are tested by a continuing dialogue between researchers and practitioners. In particular, Mojkowski has indicated that the person who desires to influence schools as an agent of change just have one foot in the world of practice and one in the world of educational R&D.

Knowledge support of linking agents will have to focus on those two worlds. A knowledge support system will not only have to obtain materials and resources through the traditional R&D channels, but will also have to develop new functioning channels to and among practitioners. Knowledge support will encompass information and resources on the school operating system as it is, the influences on that system, and alternatives for planning and problem-solving.

A critical function of knowledge support for linking agents will be matching existing knowledge bases such as those described by Culbertson (1977) and Crandall (1977) with the way an operating linking system solves or addresses problems. If that critical analysis takes place, it is likely

that some knowledge forms will be deemed more useful than others. A knowledge support structure will then spend more money and time collecting those forms that are most useful.

If, as Lavin and Sanders, and Mojkowski propose, the new focus is on R&D and the practical world, linking agents will be a part of a cyclical process for connecting the knowledge base with real school needs with more useful knowledge forms. In this manner, then, clients will be assured that the knowledge base will address their needs. More importantly, the knowledge base people, who do not have clients, will know that the resources they are developing are what schools actually need.

The knowledge support system of the future will extend beyond the established resource bases and into the practical world of the local school organization. The linking agents who are served by such a system will ultimately be better informed and will have established greater credibility than before.

ORGANIZATIONAL SUPPORT

Olga Moir

Organizational support is that assistance from the host agency to the linker which extends beyond the linker's own skills, immediately available resources, and entitlement. The general nature of the first two aspects of this assistance--training and knowledge resource--has been delineated in the preceding sections. It may be well, however, to revisit the concept of entitlement before proceeding to the various aspects of organizational support.

The entitlement of the linker, and his or her ability, are the two most critical factors in determining the need for and dimensions of organizational support. Entitlement, as discussed by Butler and Paisley (1978, p. 31), is an "amalgam of expectation, legitimation, auspices, functions, and...the linking agent's presentation of self." Entitlement is defined by the tacitly or formally agreed to parameters of those activities a linker "ought to" or "can" do. The aspects of process helper, resource finder, and solution giver mentioned earlier define the basic role-entitlement of the linker. The set of skill clusters identified by Crandall (1977, p. 217)--problem-solving, communication, resource utilization, etc.--also inductively define the linker's role; they do not, however, differentiate the linker's entitlement sufficiently, since others may also carry out these functions to a significant extent or may actually perform them for the linker.

The territory of a linker's entitlement can perhaps best be described as "ending at the tip of the other person's nose." It includes all those activities linkers perform in carrying out their role that do not extend significantly into another's territory. When others within the host

organization or school system also perform these roles, the concept of teaming comes into play. Teaming allows synergy of effort, economy of energy, and the availability of a variety of skills and resources. Duplication of effort and concern about "territorial imperatives" are minimized. The manner in which one presents and projects him/herself can also be a crucial variable in the shape and size of a linker's entitlement.

The linker's ability is also a major factor in the nature and degree of organizational help needed. The Superlinker does not exist. We all have our strengths and weaknesses, interests and aversions, experiential peaks and valleys. All linkers need assistance at some point in the linkage process.

THE SUPPORT SYSTEM

One work group at the Belmont Conference described a total linker support system as including the levels of:

- Host organizations (the organizations sponsoring the linkage functions)
- Funding/supporters of dissemination programs
- Planners of dissemination programs

The major funders, supporters, and planners of dissemination and linkage programs are well known. The national impetus for these programs comes from the National Institute of Education and the U.S. Office of Education. NIE's network of research and development centers, regional laboratories, ERIC clearinghouses, regional information exchanges, capacity building programs, and research and development utilization projects touches all educational linkers in myriad ways. The U.S. Office of Education's National Diffusion Network and various ESEA Title IV-C activities provide a range of programs

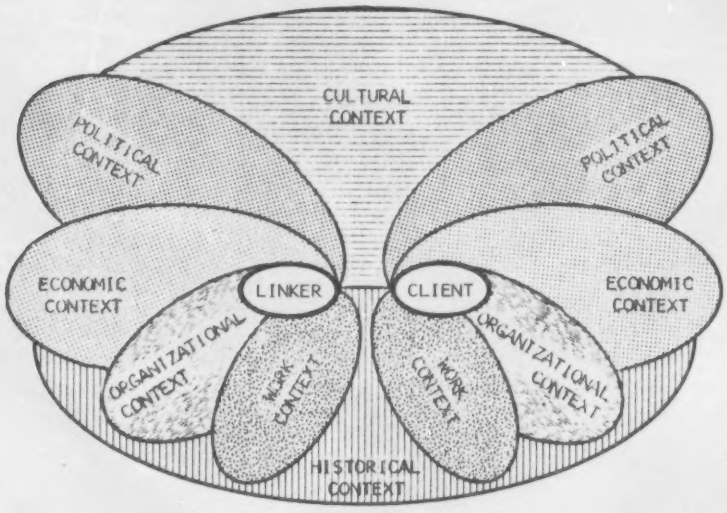
and practices for use in educational settings. As the nationwide infrastructure of planning, funding, and support of linkage activities and linkers is well known, the next part of this section will concentrate on the organizational support available to the linker close at hand, usually through a host agency.

ORGANIZATIONAL SUPPORT

Butler and Paisley (1978) indicate the multiple dimensions in which dissemination and linkage take place with a beautifully symmetrical graphic depiction of the contextual interrelationships that surround the linker/client situation (Figure 5). The work context designated in the figure is approximately the area of the linker's entitlement, and the organizational context is the extent of the host agency's perview. As can be seen these two contexts overlap significantly, but are not completely in coincidence--an indication that linkers are usually their own persons, as well as belonging to their host organization.

FIGURE 5

MULTIPLE CONTEXTS OF CONTACTS BETWEEN LINKING AGENTS AND CLIENTS



Source: Butler and Paisley, 1978, p.31

As pointed out earlier, while a given agent can be a "virtuoso" in one or more areas of linkage, it is highly unlikely that we will find or develop a Superlinker. Since no one person can embody all of the knowledge and skills necessary to be the complete linker, support by the host organization becomes necessary. What types of organizational support are most useful to the linker? Broad categories of organizational support are available in the areas of administrative, physical, fiscal, political, resource, research, training, conceptual and planning, procedural, technical, and evaluation assistance. The first five of these categories are general in nature, and do not usually concern the linker. Resource and training support have been dealt with earlier in this paper. Let us look, therefore, at the conceptual and planning, procedural, and technical support aspects, with passing attention to evaluation assistance.

Planning and Conceptual Support

Most organizations, particularly those receiving federal funding, have a planning and proposal-writing capability. The individual or unit that carries out this responsibility within the organization normally exercises some ongoing helping and/or monitoring relationship with its successfully funded "children." As the skills necessary to generate and sell concepts are very close to those necessary to make mid-course conceptual corrections and related planning decisions, the federal funding office may be able to provide significant assistance in cases where further planning should take place or future funding be sought. Suggestions for planning and proposals can often be gleaned from the linkers and staff of the host organization with little input from the clients (users) in the school district. But it is essential to involve the clients in any linkage system planning effort, if it is to meet the needs of the school district it serves.

Procedural Support

The success of the activities of both external and internal linkers is dependent on carefully thought-out and developed procedural strategies. These strategies should provide major ongoing support to the linker in his or her activity. The strategy is in fact the plan of action for which the linker has major implementation responsibility.

Returning to the three training programs sketched by Grimes (pp. 134-140) each host program has a very distinct conceptual and procedural basis. Project VALUE (Wayne County, Michigan) utilizes a process including these steps:

- Program Identification (with user input)
- Dissemination
- Program Selection
- Knowledge Building
- Commitment/Technical Assistance
- Support/Maintenance
- Evaluation

The Illinois Program Service Teams:

- Provide problem-solving and planning assistance to local school districts.
- Assume a resource linkage role for local school districts.
- Serve as a communication link between the Illinois Office of Education and local school districts.
- Provide technical assistance to local school districts when needed (but do not regulate).

The Florida Linkage System consists of five sub-systems:

- Problem Identification
- Linkage

- Information Resources
- Research and Development
- Solution Selection/Implementation

In each case, the resources implied by the strategic components are available to assist the linker.

A major form of support is provision of information about those procedures required to obtain federal monies for innovative programs (e.g., Title IV-C of the Elementary and Secondary Education Act and the National Diffusion Network, as well as similar state-level efforts such as the Michigan Adoption Program). Typical procedural steps specified for funding are:

- Needs Assessment
- Letter of Interest
- Statement of Problem and Objectives
- Statement of Assurances and Budget
- Training Agreement
- Program Expenditure Report
- Interim (Formative) Reports
- Evaluation

The above steps, plus the production of associated adoption criteria statements, implementation checklists, and periodic reviews constitute a de facto set of procedures that shape the linker's behavior and therefore provide part of the formula for support activities.

Technical Support

Basically, technical support is the capacity to provide a surrogate for or adjunct to the linker, when necessary. At any given time, a particular linker may need help in some aspect of problem solving, communications skills, resource utilization, planning, process helping, implementation, content and

subject matter, evaluation, or plain old survival techniques. He or she should be able either to obtain necessary help through the host organization or to easily identify existing capacities within the school district with which to coordinate.

Evaluation

The host organization and the clients served can play a substantial role by providing formative evaluation services for the linker in his or her activities. In Chapter 6, Bank, Snidman and Pitts explore some of the potential relationships between linkers and evaluators. Summative evaluation is better left to outside agencies for reasons of objectivity and perspective.

THE FUTURE

The two-way flow of information from clients (users) to producers of resources and back again to clients (in the form of needed products) is emerging as an important element of the linkage process. This flow "senses" the need for resources, identifies areas of scarcity, and addresses unmet needs. Host organizations and linkers play critical roles in transmitting needs to those who supply products and processes that produce positive curricular change.

In the following section on Psychological Support, it is pointed out that the linker's role can be lonely, stressful, and marginal. It is also indicated, however, that a small number of like-minded people can sustain each other. Linker teams not only have the advantage of providing mutual psychological support, but also allow the interaction of a variety of understandings, attitudes, skills, and resources.

We are now witnessing the emergence of "linking agencies" which attempt to connect a wide variety of resources that might be applied to client needs. David Crandall for example, speaking of his home agency, the NETWORK, calls it a linking agency. He laments, however, that "risk capital" does not seem to be available for the development of such agencies. Fortunately, some existing education agencies are taking the necessary risks, aided by NIE and USOE funds.

It is anticipated that linkage teams and linkage agencies will develop as major support mechanisms in the near future, with increasing emphasis on the internal/external relationship of the team members (e.g., Butler and Paisley, 1978; Mojkowski, Chapter 5).

PSYCHOLOGICAL SUPPORT

William Paisley

This brief section concerning the psychological support needed by linking agents is based on proceedings of the Belmont Conference and on the writings of Havelock (1969), Sieber, et al. (1972), Crandall (1977), Butler and Paisley (1978), and others. Less is known about psychological support of linking agents than about training support, knowledge support, and organizational support. We do not know why one linking agent will bog down in a work environment in which other agents will thrive. We have few theoretical frameworks for describing the psychological costs and rewards of linking agentry, the psychologically relevant aspects of tasks and work settings, or even the traits of linking agents that are related to their effectiveness.

However, we can identify sources of stress that linking agents must overcome or adapt to. Looking from the center of linking agentry outward to its periphery or context, we can identify function stresses, role stresses, and organization stresses.

FUNCTION STRESSES

Because of the broad charter under which linking agents are sent out to "improve the schools," committed agents frequently work themselves into an overload condition. Agents who tend to be overly zealous, conscientious, cautious, etc., may take on additional functions in order to be satisfied with the way in which school improvement efforts are proceeding. In most educational dissemination programs, the ratio of clients to agents is too

large; agents may accept more clients than they can serve and may promise more services than they can deliver. New functions are added to the linking agent's assignment with each new analysis of the school improvment process, but old functions tend to be retained (e.g., a new emphasis on technical assistance does not displace an old emphasis on information service). Specialization of the field staff of dissemination programs is evolving more slowly than specialization of office staff. The efficient tactic of assigning a team consisting of a "resource finder" and a "process helper" to work with the same schools, which would permit each agent to specialize in one set of functions, is presently hindered by funding limitations and by the "generalist" model of linking agentry that is still assumed in training and support activities.

ROLE STRESSES

To the extent that the role of the linking agent resembles the role of the change agent in fields other than education (e.g., social services), studies show that linking agents are unsettled by the marginality of their roles. Until the time when a significant number of part-time agents are recruited out of classrooms and school administrative offices, agents will continue to be outsiders with respect to the client groups they serve. At the same time, agents in most states are spread too thin to provide each other with the kind of social support that other professionals share.

The newness of the linking agent's role in American education also causes stress, as does the constant need felt by agents to explain and justify their activities. A new role, even if filled by educational veterans recruited or reassigned from other roles, is suspect in a field crosscut by liberal-conservative, labor-managment, and majority-minority controversies.

ORGANIZATION STRESSES

Linking agents happen to be the staff on the firing line at a time when state education agencies are making a historic transition from functions that are largely regulatory to functions that are balanced between regulation and assistance in school improvement. It causes an additional stress, in this case an organization stress, when linking agents must explain or justify the state education agency's activities as well as their own.

Another organization stress that some linking agents experience is the slow pace of decision-making and action in the state education agency. Even in liberal locales, state education agencies tend to be conservative organizations in the literal sense that they conserve the states' traditions of education. The state education agencies change more slowly than does actual educational practice in the states. Linking agents based in state education agencies must find a balance between external pressures for faster change and internal pressures for slower change.

REMOVING OR REDUCING STRESSES

The order in which the stresses of linking agentry are discussed above is approximately the order in which psychological support can remove or reduce them. Function stresses are an everyday problem for the occupational psychologist; solutions include changing the number or character of functions to make a worker's job performable, and/or training the worker to perform more functions. Whereas now (by analogy with another field) the linking agent attempts to perform as radiologist, pathologist, surgeon, nurse, and physical therapist, the increasing complexity of linking agentry will

lead eventually to the training and assignment of teams of linking agent specialists rather than generalists. The alternative of training linking agents to perform more functions seems to be a hopeless enterprise, in the face of the long lists of activities that have been specified or observed in linking agentry (e.g., Paisley, et al., 1973; Crandall, 1977).

The marginality of the linking agent's role has analogues in other fields. For example, a newspaper reporter is a marginal person vis-a-vis the politicians, police officers, athletes, and others whose stories make up his or her daily beat. Similarly, researchers (e.g., anthropologists engaged in field studies) are often marginal vis-a-vis the people they study. Persons responsible for enforcing regulations (e.g., USDA meat inspectors) are marginal visa-vis the workers whose activity they regulate.

Whenever a worker must spend much of his or her time in contact with an organized group of other persons who are not colleagues, the worker will probably feel marginal vis-a-vis that group. Professions that are older than linking agentry have reduced feelings of marginality by encouraging the "guild spirit" among members. Uniforms, badges, and other accoutrements or symbols help, but what is most important is an attractive, credible image of collective effort. In this respect, regional and national assemblies of linking agents pay back in morale as well as new knowledge.

Organization stress is the most difficult to compensate for, unless opportunities arise to make changes in the structure or function of the organization. Long-term change in the function of state education agencies from regulation to facilitation is congruent with the work of linking agents, but in the short term the agents will sometimes find the administrations and other program components of their agencies to be unresponsive to support needs. However, it is well established in the literature of research on

organizations that a small number of like-minded people can sustain each other's beliefs and efforts despite apathy or even opposition in the larger organization. The staff of a dissemination program generally consists of such like-minded people, whose enthusiasm for school improvement sustains them.

SUPPORTING THE POSITIVE ASPECTS OF LINKING AGENTRY

Too much emphasis on the need for psychological support to compensate for negative aspects of linking agentry might make one wonder why any able professional in education or information service would choose to do the work. In fact, able professions with certain traits and values are recruited into linking agentry not because they believe they can overcome its negative aspects, but because they find in the positive aspects many of the gratifications that their previous positions have lacked. These positive aspects include:

- Central involvement in the process of improving education.
- Participation in the formative period of a system that seems to benefit the schools.
- Collegial ties with others who have similar traits and values; membership in a nationwide "invisible college."
- Variety and autonomy in daily work.
- Contact with many educational administrators and others who may be instrumental in opening up further career opportunities.
- A good feeling about themselves.

Depending on the values of the linking agent, one or more positive aspects may be as important in balancing the negative aspects as psychological

support is in mitigating them. For this reason, the positive aspects should not be discounted as "perks." Instead, thought should be given to ways of strengthening each positive element according to the importance that successful linking agents place upon it.

Training support, knowledge support, and organizational support are essential to the technical effectiveness of linking agents. Psychological support helps to determine whether educational dissemination programs, which depend on uncommon talent, can retain and nurture that talent for their own future growth.

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Chapter 8

EPILOGUE

Spencer Ward

The issues dealt with in the preceding chapters continue to be major concerns of dissemination activities at the federal, state, and intermediate unit or county level. The 1978 Dissemination Forum expanded its participation to include representatives from federal programs involved in staff development and other approaches to school improvement. This was a logical result of broadening the definition of dissemination to include implementation. There was increased emphasis there and in the planning for the 1979 regional dissemination seminars on ways to coordinate school improvement services at every level.

The Belmont Conference and this set of papers is another step in a long series of federally-supported efforts to define the roles and support needs of one group of persons involved in school improvement. Early efforts included the Havelock, et al. report on Planning for Innovation (1969), the report and training materials prepared by Butler, Paisley, and Mick (1973), and the Havelock, et al. report on training linking agents (1973).

More recent efforts include the Preparing Educational Training Consultants I, II and III materials prepared at Northwest Regional Education Laboratory (NWREL, 1976), the Cooperative Dissemination and Linking Agent Training Project, the Piele review of the literature on linker functions and training (1975), and the UCEA book on Linking Processes in Educational Improvement (Nash and Culbertson, 1977). These more recent efforts have

generally suggested interrelationship among administrators and several types types of support personnel in the school improvement process. In identifying linker training and support materials, the Cooperative Project found that in most cases the same materials were appropriate for training linkers, administrators, and a wide range of educational consultants (Regional Educational Laboratories, 1976). Similarly, the UCEA book on linking emphasized that administrators as well as linkers have a key role in school improvement. Another in this series of activities was an October 1977 conference on staff development for principals as part of the school improvement process. That conference, jointly sponsored by the NWREL Dissemination Support Service, the National Staff Development Council, and the University Council for Educational Administration, explored relationships among administration, staff development, and dissemination (Wlodarczyk, 1979).

The most recent effort in this series was a Dissemination Processes Seminar conducted by the NWREL Dissemination Support Service in May, 1979. The seminar topic was the synthesis process, but the content of the seminar focused around the integration of school adminstration and linking functions in the school improvement process. It appeared to this writer that that seminar helped to advance our understanding of some of the coordination and support issues dealt with in the preceding chapters. Thus, it seems appropriate to report here some of this writer's summary of that seminar (NWREL, 1979). The following discussion, based on that seminar, will begin with the DAG definition of dissemination and suggest some of its implications for definitions of school improvement and linking functions and for coordination among supports for school improvement.

Implications of the DAG Definition of Dissemination as Adopted by the 1977 Dissemination Forum

Based on the realization that more limited definitions of dissemination were inadequate, the Dissemination Analysis Group (DAG, 1977), and later the 1977 Dissemination Forum adopted the following definition of dissemination:

Usage 1: Spread: The one-way casting out of knowledge in all its forms: information, products, ideas, and materials, "as though sowing seeds."

Usage 2: Exchange: The two-way flow of information, products, ideas, and materials as to needs, problems, and potential solutions.

Usage 3: Choice: The facilitation of rational consideration and selection among those ideas, materials, outcomes of research and development, effective educational practices, and other knowledge that can be used for the improvement of education.

Usage 4: Implementation: The facilitation of adoption, adaptation, and installation of improvements.

The DAG definition represents an effort to take into account the variables which were proving important to change and school improvement. It acknowledges that dissemination activities are to contribute to school improvement, not just the purchase of materials, programs, and consultants. Recent studies of dissemination programs have clearly indicated that factors in the choice and implementation processes are crucial in effective and lasting change in schools (Emrick and Peterson, 1978). However, this broader definition introduces significant complications and confusion for dissemination and for linkers. The terms which seemed clear on first reading are less clear when we try to use them in practice.

The confusion chiefly comes from two sources, First, as the Brickell (1978) analysis of the 1977 Forum suggested, the four-part definition refers to two more typical linking system functions (exchange and spread) and two client system functions (choice and implementation). This raises questions

about how dissemination can be responsible for client system functions, particularly in view of the fact that the local administrator is usually considered responsible and accountable for these functions.

The second source of confusion focuses around the inclusion of "implementation." This implies the involvement of several other resources available to local schools. These other resources include staff development (both preservice and inservice), curriculum supervision, district research and evaluation staff, consultants from universities and private agencies and, finally, the administrator, who is responsible for seeing that all those resources are utilized in the service of maintenance and improvement of education.

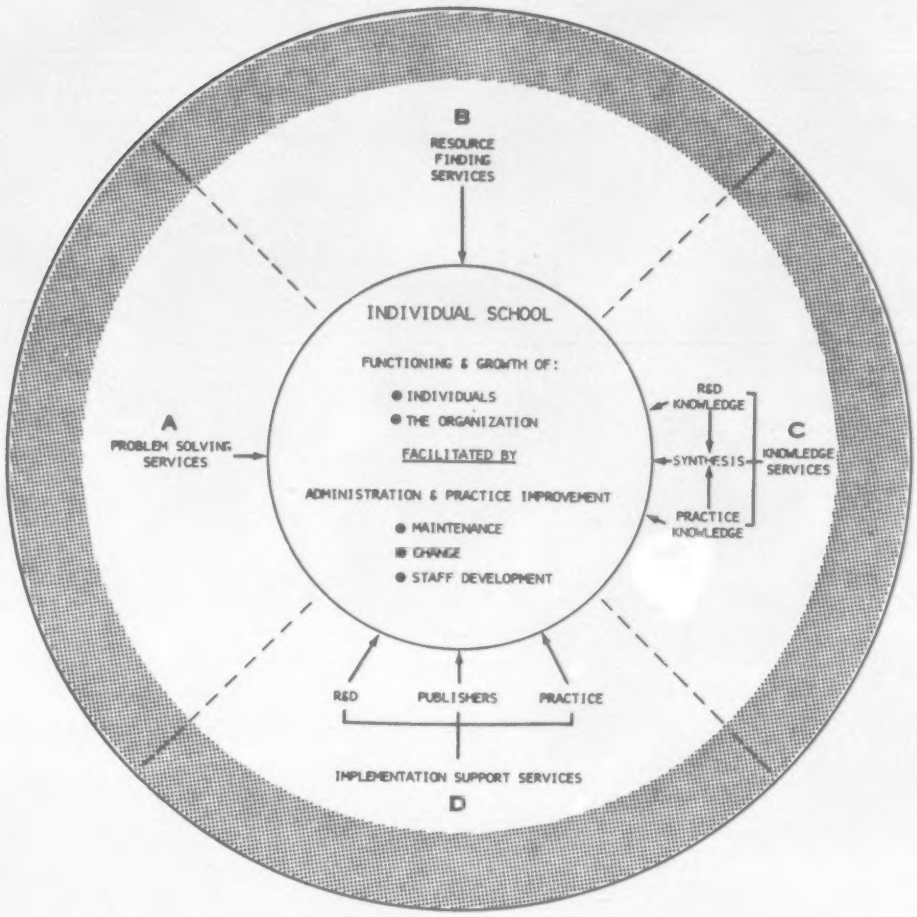
Thus, we have been forced by our own data and by our own need to be accountable to look more broadly at the role of dissemination in the total school improvement and school management process. But once we include choice and implementation, we have clearly gone beyond the entitlement of the linking agent or the dissemination program. The rest of this discussion will suggest that the inclusion of choice and implementation is an accurate reflection of the nature of the school improvement process in which external dissemination efforts and the user system must be partners.

The School Support and Improvement Process

In order to consider linking roles and functions in this partnership, it is important to distinguish between the improvement process in the individual school for which the principal is responsible and the support resources available within the school district. The following diagram (Figure 1) and discussion suggests the relationship between the local school and the kinds of resources needed to facilitate and support improvement and effective functioning.

FIGURE 1

SUPPORT SERVICES NEEDED FOR SCHOOL FUNCTIONING AND PRACTICE IMPROVEMENT



= *services external to school system*

= *services internal to school system*

In the center circle is a single school and its functioning and growth, including individuals in the organization and the organization itself. School improvement is a responsibility of administration, which includes maintenance, change, and staff development. At a minimum one can think of administration as direction; any individual administers his/her own life--students administers their own lives; the teacher administers the classroom; the principal administers the school; and, the superintendent administers the district. Each person is responsible and accountable at his/her own level of administration. The figure indicates that responsibility is focused on the local principal. This is not to suggest that the teacher does not have an equally important role. It is, however, to suggest that the administrator is the person paid to administer the school and its improvement efforts.

In the diagram the services in the outer circle are resources which are available to assist the administration of the central unit. For the sake of this discussion the inner circle is the local school, but one could consider that these same or similar supports are needed for the individual student, and the teacher. The services indicated in the outer circle are based on the major categories of linking functions presented by Havelock in Chapter 2: problem-solving services, resource finding services, knowledge services, and implementation support services. The shaded area on the rim of the outer circle indicates services available outside the school district; the white area, those available within the district. With some large city and county districts, there may be little need for external supports. In the diagram, (C) Knowledge Services (abbreviated from Developing and Transforming Knowledge and Other Resources), includes knowledge from both R&D and practice. These two types of knowledge can be summarized or synthesized separately or integrated as a single resource, as suggested by the arrows.

As can be seen from the lists of functions in Chapter 2, the support services include most of the resource persons available inside and outside a school district. Problem-solving services include research and evaluation; implementation support services include preservice and inservice staff development, and the whole range of curriculum and instructional supervision and consultation resources. Much of the recent literature indicates that the functions of these areas are closely related to one another and to dissemination functions. For example, a recent annotated bibliography suggests interrelationships between staff development and other services (Collins, 1979). Many other documents prepared for staff development (Henry, 1957; Sergiovanni, 1975; Joyce, 1976; Lieberman, 1978) and for curriculum/instructions supervision (Mosher, 1972; Cogan, 1973) contain much that is relevant to the function of the linking agent. The overlap and interdependence between dissemination and staff development is particularly clear in recent writings on staff development (Rubin, 1977; Arends, 1978; Moore, 1978, National Staff Development Council, 1979).

However, in spite of the similarities and close relationships suggested by the literature, there is little cooperation among the various specialities in the provision of services or in the study of processes in which they are involved. If linkers understood those processes better it might contribute to preparation of more effective plans for educational improvement. Similarly, if staff developers and other specialists better understood what has been learned in dissemination studies about the roles of the linking agent and the administrative and organizational supports needed for educational improvement, their own support efforts might be more effective.

One of the factors which has made it difficult for dissemination to define a clear and limited and complementary role in school improvement is that frequently the person who has formal responsibility for planning and improvement (i.e., the administrator) has been uninterested, or unable to take a leadership role in school improvement. Again and again, as this writer has heard linkers talk of successful experiences, it appears that the account focuses on a competent and dedicated administrator who has used the linker as a resource in accomplishing school goals. Similarly, descriptions of difficult or ineffective linking experience often reveal that the administrator did not see the linker as part of his or her plan for school improvement. In some of the successful situations linkers describe collaboration with administrators to improve the administrator's skills as well as to provide knowledge and access to other resources to help accomplish school goals. With greater district and state emphasis on accountability we can assume that administrators will be more open to collaboration with outside resource persons if they can see those resource persons as helping them achieve their goals.

In an effort to distinguish dissemination from other supports to schools, the administrator's role is sometimes seen as including two major functions--school maintenance and school improvement. However, when it is recognized that school improvement and the continuation of improvements are based on a healthy and well-managed school, it becomes clear that the apparently neat distinction is not so neat. This suggests that disseminators and others concerned about school improvement should be concerned with and willing to provide or help locate supports for all aspects of the administrator's role. Perhaps one of the goals of any dissemination program should be to assist the administrator at school and district levels to obtain and

coordinate the multiple human and material resources needed for effective school maintenance and improvement. The external linker has a crucial added advantage as a resource for the administrator. As someone outside the system they can often help to surface issues that insiders have missed or assumed were not open to change. The linker can also bring or arrange for others to bring new ideas and training opportunities.

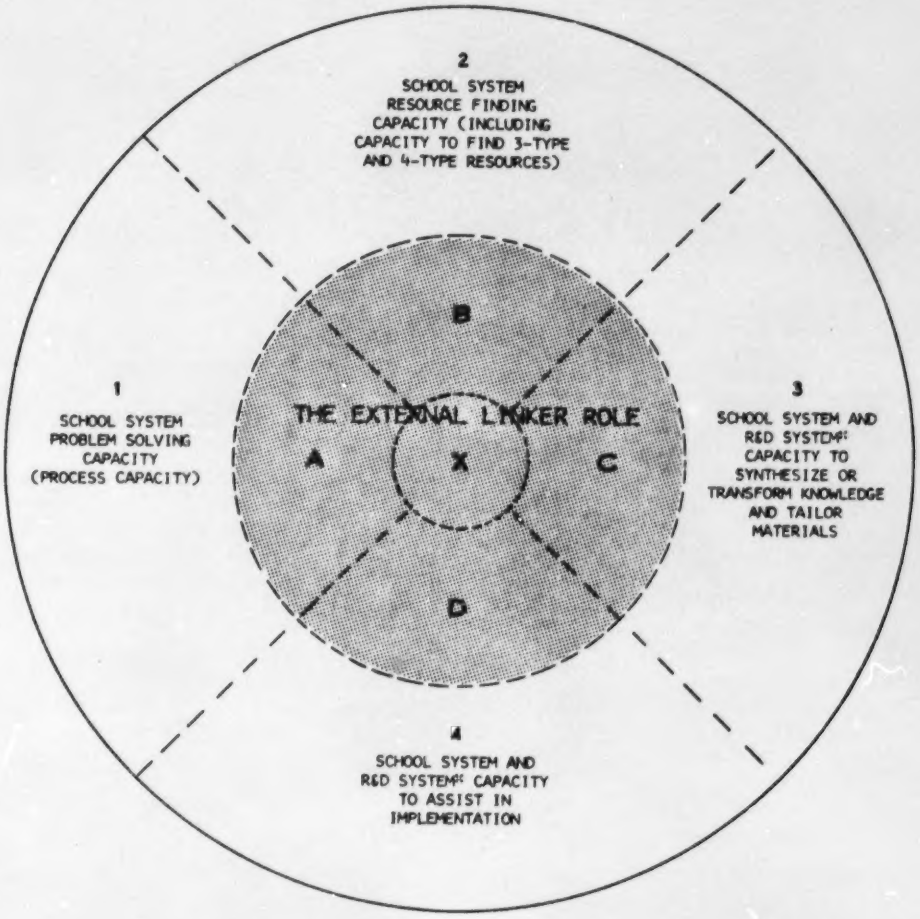
The Place of Dissemination in School Improvement

Based on the preceding discussion of the supports needed by schools, it may be possible to return to our task of defining the function and role of the linking agent. This writer has attempted to take seriously the challenges of the Lavin and Sanders and Mojkowski papers to begin with the needs of the client system, but having done that, where do we find "dissemination" in the picture? If dissemination is seen as supporting and supplementing the client system, we need to see dissemination as as elastic resource. Figure 2 is intended to suggest how the dissemination system must supplement local or internal resources. One might imagine that this diagram results from turning Figure 1 inside out so that the focus of Figure 2 is on those supports external to the school district. This diagram suggests the relationship of the four categories of linker functions from Chapter 2 (problem solving, resource finding, knowledge/product transforming, implementation support) with the list of general principles in that chapter. In addition to the four categories, the inner circle, labelled X, suggests a set of personal and interpersonal skills in consultation and relationship-building which must be used in providing any of the types of services.

The shaded area indicates the external linker role, and the broken line around that area suggests the elasticity of the role boundary. The diagram emphasizes the responsiveness of the linker role to the needs of the system.

FIGURE 2

RELATIONSHIP OF EXTERNAL LINKER ROLE TO SCHOOL SYSTEM CAPACITY


2
SCHOOL SYSTEM RESOURCE FINDING CAPACITY (INCLUDING CAPACITY TO FIND 3-TYPE AND 4-TYPE RESOURCES)
1
SCHOOL SYSTEM PROBLEM SOLVING CAPACITY (PROCESS CAPACITY)
3
SCHOOL SYSTEM AND R&D SYSTEM* CAPACITY TO SYNTHESIZE OR TRANSFORM KNOWLEDGE AND TAILOR MATERIALS
4
SCHOOL SYSTEM AND R&D SYSTEM* CAPACITY TO ASSIST IN IMPLEMENTATION
B
THE EXTERNAL LINKER ROLE
A
X
C
D

CATAGORIES OF LINKER FUNCTIONS:

A = PROBLEM SOLVING SERVICES

B = RESOURCE FINDING SERVICES

C = KNOWLEDGE AND PRODUCT TRANSFORMING SERVICES

D = IMPLEMENTATION SUPPORT SERVICES

X = BASIC PERSONAL AND INTER-PERSONAL SKILLS, KNOWLEDGE AND ATTITUDES RELATED TO CONSULTATION AND RELATION-SHIP BUILDING

*COMPONENTS OF R&D SYSTEM:

- UNIVERSITIES
- DEVELOPERS
- PUBLISHERS
- LABS/CENTERS
- PRIVATE AGENCIES
- PRIVATE CONSULTANTS

The more adequate the school capacities in 1) problem-solving, 2) resource finding, 3) synthesizing, or 4) implementation, the less the linker or dissemination systems would have to make available services (A, B, C, or D) to enlarge or complement the school capacities. Thus, the role of the linker in each functional area is largely determined by the capacity of the school system, the availability of other resources, and the linker's own capacity. In each functional area the linker role could be chiefly consultation in carrying out the function, training in carrying out the function, or carrying out the function. In most situations the role would be some mixture of the three.

It may be useful to discuss briefly the Knowledge and Product Transforming Services category (C), since it has received relatively little attention in the past. From the first Pilot State dissemination efforts, we have supported limited knowledge and product transforming services, and the ERIC Clearinghouses have continued to product information analysis products. More recently there has been an increased interest in such activities within the Research and Development Exchange. The preceding paper by Carol Reisinger (Chapter 7) discusses transformation as one of the knowledge supports needed by linking agents. As we look more carefully at the kinds of knowledge from inside and from outside a school which are needed to facilitate promising improvement efforts, and as we learn more about the synthesis process, there may be more attention to synthesis of knowledge from R&D and practice so that the resulting knowledge more clearly relates to problems of practice. Such synthesis efforts may well require the same high degree of collaboration of practitioners, researchers, and disseminators as appears to be needed in other aspects of practice improvement.

The Role of the Linking Agent in School Improvement

This four-way interactive model of dissemination suggested in Figure 2 is an attempt to respond to some of the concerns which Mojkowski raises. This model represents four aspects of the school improvement process and suggests that linkers may play all four roles, or none at all, or only a facilitation/coordination/stimulation role. One of the Belmont subgroups suggested that linkers should be thought of more as rubber bands and are too often seen as paper clips which don't stretch much without losing their function.

The diagram refers to the linker role in the singular and yet the Belmont conference and the preceding papers suggest that this role must often be filled by a number of persons or by a number of institutions. The diagram may best be thought of as suggesting the total external support needed for school improvement. We might refer to the provision of such support as the dissemination task in a given setting.

In the performance of the dissemination task there appear to be three fundamental roles of the linking agent. If, as Lavin sugests, we see the administration as the key linking agent in a client agency (whether school or school district), then one of the functions of the external linker is to establish a working relationship with that person. Such a relationship may be facilitated by state or district mandates to utilize external resources, by state or district accountability efforts, by agreements between the administrator of the linking organiztion and the district or building administrator, by the interest of the administrator, and by the skills of the linking agent. Where fewer of the preceding facilitating factors are present, the linking agent will have to be more skillful. If none of these

factors are present, the linker may have an impossible task. These facilitating factors are closely related to the organizational supports discussed by Olga Moir.

The second fundamental role of the linking agent is to assist the administrator (and through him/her other internal resource persons) in solving specific problems. The third fundamental role is to help the client system and its staff, including teachers, administrators, and internal resource persons to become more competent and able to solve problems on their own. In carrying out these roles, the linker may provide any of the services or utilize any of the skills suggested in Figure 2 or in Chapter 2, or may arrange for other persons to provide any of those services.

The tasks of the linking agent and the flexibility required suggest a parallel with the demands on the teacher whose students who need to learn different things and learn in different ways. It appears that we are beginning to realize the complexity of both of these roles and the importance of the availability of supports for effective functioning in each.

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Appendix A

BELMONT CONFERENCE ON DEFINITION OF LINKER FUNCTIONS AND LINKER SUPPORT NEEDS

PARTICIPANTS

Jane Arends
Northwest Regional Educational Laboratory
Portland, OR

Ann Bezdek
U.S. Office of Education
Washington, DC

Matilda Butler
Far West Laboratory
San Francisco, CA

James Connett
Murdock Teacher Center
Wichita, KS

John Coulson
National Institute of Education
Washington, DC

Dave Crandall
Network of Innovative Schools
Andover, MA

Daniel H. Cromer
Northwest Georgia Cooperative Educational Service Agency
University of Georgia
Athens, GA

Ron Curtis
Southeast Iowa
The Learning Resources Center
Red Oak, IA

Shirley Duff
Kentucky Department of Education
Frankfort, KY

John Egermeier
National Institute of Education
Washington, DC

Ed Ellis
National Institute of Education
Washington, DC

Jerry Fletcher
Office of the Deputy Assistant Secretary for Education
Washington, DC

George Grimes
Media and Dissemination Center
Wayne County Intermediate School District
Wayne, MI

Fay Harbison
Newport Unified School District
Newport Beach, CA

Charles Haughey
National Institute of Education
Washington, DC

Ron Havelock
National Institute of Education
Washington, DC

Paul Hood
Far West Laboratory
San Francisco, CA

Larry Hutchins
National Institute of Education
Washington, DC

Thomas Israel
National Institute of Education
Washington, DC

Susan Klein
National Institute of Education
Washington, DC

Dianne Lassman
The Exchange
Minneapolis Public Schools/University of Minnesota Teacher Center
Minneapolis, MN

Richard Lavin
Merrimac Education Center
Chelmsford, MA

Barry Lefkowitz
Institute for Political/Legal Education
Sewell, NJ

Karen Louis
ABT Associates
Cambridge, MA

John Masla
College of Education
Ohio University
Athens, OH

Olga Moir
Media and Dissemination Center
Wayne County Intermediate School District
Wayne, MI

Charles Mojkowski
Educational Consulting Services
Cranston, RI

Donald Moore
Design for Change
Chicago, IL

Jean Narayanan
U.S. Office of Education
Washington, DC

Carnot Nelson
National Institute of Education
Washington, DC

Evelyn Ogden
National Diffusion Network
Technical Assistance Brokerage
Capla Associates
Trenton, NJ

William Paisley
Institute for Communication Research
Stanford University
Stanford, CA

Joseph Pascarelli
Educational Improvement Center
Morris Plains, NJ

Senta Raizen
National Institute of Education
Washington, DC

Robert Shafto
Maine Facilitator Center
Gardiner, ME

Mary Smith
Project Adventure
Hamilton, MA

Charles Thompson
National Institute of Education
Washington, DC

Virginia Thompson
Northwest Regional Educational Laboratory
Portland, OR

Spencer Ward
National Institute of Education
Washington, DC

William P. Ward
Northwest Regional Educational Laboratory
Portland, OR

Glenn White
Behavioral Studies Department
University of Missouri
St. Louis, MO

Appendix B

BELMONT CONFERENCE ON DEFINITIONS OF LINKER FUNCTIONS AND LINKER SUPPORT NEEDS

AGENDA

Tuesday, November 1, 1977:

Introductory comments

Review of agenda

Review of outlines for linker and linker support presentations.

Wednesday, November 2:

Morning

I. Presentations by linkers of their work with a single client system (school level vignette).

Presenters:
Dan Cromer (GA)--Research and Development Utilization
Shirley Duff (KY)--State Capacity Building

Recorders:
Bill Ward
Spencer Ward

II. Presentations by linkers on the total role of the linker.

Presenters:
Evelyn Ogden (NJ)--Process Consultant II
Fay Harbison (CA)--National Diffusion Network Developer-Disseminator

Recorders:
Jane Arends
Jean Narayanan

III. Presentations by managers of linker organizations on the work of their organizations and their role as managers.

Presenters:
Dick Lavin (MA)--Merrimack Education Center
George Grimes (MI)--Wayne County Intermediate School District

Recorders:
Ann Bezdek
Virginia Thompson

Wednesday, November 2:

Afternoon

IV. Presentations by linker support persons of their work.

Presenters:
Olga Moir (MI)--Wayne County Intermediate School District
John Masla (OH)--Ohio University-Teacher Corp

Recorders:
Don Moore
Dave Crandall

Work Groups--Analysis of linker function and support needs--work in subgroups after full group discussion.

Conference attendees were assigned to groups so as to assure a mix of programs represented in each group. Each group had the same task, but they were given as background material the notes from the four presentations matching with the number of their group.

I	II	III	IV
Masla	Connett	Duff	Cromer
Ogden	Grimes	Moir	Lavin
Louis	Butler	Crandall	Hood
S. Ward	Hutchins	Shafto	Narayanan
Smith	Lefkowitz	Arends	Harbison
B. Ward	V. Thompson	Haughey	Mojkowski
Moore	Havelock	C. Thompson	Paisley
Bezdek			White

Task for Each Group:
-produce a list of defined, categorized and agreed-upon functions
-produce a model/diagram/schema/"recipe"/etc. (for integrating functions into roles) that captures the process of role definition for any given linker in any given situation

Resources Available to Each Group:
-a set of recorder notes
-NDN/TAB paper from Evelyn Ogden
-tables of contents of linker training materials
-UCEA book
-list of linker skills (handout)

Evening

Brief reports from work groups

Continued work in work groups

Informal discussions

Thursday, November 3:

Morning

Presentations on linker support projects:

National Diffusion Network/Technical Assistance Brokerage
Evelyn Ogden (NJ)--Process Consultant II

Linker Training Service
Bill Ward (OR)--Northwest Regional Educational Laboratory

Training for Research and Development Exchange/Research and Development Utilization
Bill Ward (OR)--Northwest Regional Educational Laboratory

State Capacity Building
Charles Haughey (DC)--National Institute of Education

Technical Assistance for State Capacity Building
Charles Mojkowski (RI)--Educational Consulting Services

National Diffusion Network Materials Contract
Jean Narayan (DC)--U.S. Office of Education

Research and Development Utilization/Network
Dave Crandall (MA)--Network of Innovative Schools

Work Groups--Take linker function roles from yesterday and understanding of support projects, particularly NDN/TAB. Prepare written notes as feedback to Evelyn Ogden.

Afternoon

Work groups report

Discussion of further work and reorganization of subgroups

Reconstituted Work Groups (Synthesis Groups):

1	2	3	4
Havelock	Moore	Bezdek	Fletcher
Mojkowski	B. Ward	Shafto	Hood
Connett	Masla	Harbison	Lefkowitz
Grimes	Arends	V. Thompson	Israel
C. Thompson	Hutchins	Moir	Smith
S. Ward		Raizen	Duff
Cromer		Narayanan	Paisley
Pascarelli		Crandall	Hutchins
Egermeier		Klein	
		Louis	
		Ellis	

Thursday, November 3:

Afternoon

The work groups were reconstituted as synthesis groups to to prepare reports on specific aspects of linkage and support. Synthesis Group 1 continued to work on linking functions begun by Group II (the "triangle" group); Synthesis Group 2 continued work on linker roles begun by Group I; Synthesis Group 3 continued work begun by Groups III and IV on linker support needs and support systems; and Synthesis Group 4 dealt with translation of conference discussions for the larger education community, implications of the conference for linker support, and the coordination of support and training for linkers.

Reports from synthesis groups

Evening

Synthesis groups continue

Informal discussions

Friday, November 4:

Morning

Brief report on status of each synthesis group

Synthesis group/individual writing

Feedback on reactions to conference

Afternoon

Finish feedback session

Reports and discussion from Synthesis Groups 1, 2, and 3

Report of Synthesis Group 4--discussion of cross-project coordination

Next steps--follow-up on Belmont

Adjourn